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re greater than or equal to the score of the result being printed,
is derived by analysis of the total score distribution.
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apolipoprotein(a)
plasmin (EC 3.4.21
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(EC 3.4.21)
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45	44	43	42	41	40	39	38	37	36	35	34	33	32	31	30
148	156	157	161	166	173	173	173.5	176.5	180.5	181.5	181.5	186	189.5	190.5	193.5
27.5	28.9	29.1	29.9	30.8	32.1	32.1	32.2	32.7	33.5	33.7	33.7	34.5	35.2	35.3	35.9
433	433	433	442	432	655	559	593	559	558	615	603	562	937	560	625
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UKBAY	JN0560	UXMS	UKPG	S18932	A46688	A29941	845281	A35029	JC5878	KFHU12	S28941	UKHUT	A45082	JC4795	TBBO
u-plasminogen	u-plasminogen	u-plasminogen	u-plasminogen	u-plasminogen act	hepatocyte growth	t-plasminogen act	coagulation factor	t-plasminogen act	plasma hyaluronan	coagulation factor	coagulation fa	t-plasminogen act	neurotrophic recep	plasma hyaluronan-	thrombin (EC 3.4.2

ALIGNMENTS

neurotrophic thrombin (EC thrombin (EC n precursor recep 3.4.2 3.4.2 Biochemistry 31, 3113-3118, 1992 A;Title: Multiple members of the plasminogen-apolipoprotein(a) gene family associated A;Reference number: 152415; MUID:92207924; PMID:1554698 apoprotein(a) (EC 3.4.21.-) precursor [validated] - human
N;Alternate names: apolipoprotein(a); lipoprotein(a) chain apo(a)
C;Species: Homo sapiens (man)
C;Date: 30-Jun-1989 #sequence_revision 30-Jun-1989 #text change 08-Dec-2000
C;Accession: S00657; A28017; A47277; I60906; A47233; I52415; I65286
R;McLean, J.W.; Tomilnson, J.E.; Kuang, W.J.; Eaton, D.L.; Chen, E.Y.; Fless, G.M.;
Nature 330, 132-137, 1987 A;Title: Multiple members of A;Reference number: I52415; A;Accession: I52415 A;Cross-references: GB:M90078; NID:GA;Note: apo(a) gene 1 (nomenclature A;Accession: A47233 A;Status: preliminary; translated from GB/EMBL/DDBJ A;Molecule type: DNA A;Residues: 1-16 <RE2> A;Cross-references: GB:L07899; NID:g967973; PID:g967974
R;Malgaretti, N.; Acquati, F.; Magnaghi, P.; Bruno, L.; Pontoglio, M.; Rocchi, M.; Saccor Proc. Natl. Acad. Sci. U.S.A. 89, 11584-11588, 1992
A;Title: Characterization by yeast artificial chromosome cloning of the linked apolipopro X',4396-4401 <EAT's R; Wade, D.P.; Clarke, J.G.; Lindahl, G.E.; Liu, A.C.; Z; Proc. Natl. Acad. Sci. U.S.A. 90, 1369-1373, 1993 Proc. Natl. Acatrol regions of the apolipoprotein(a) generates a control regions of the apolipoprotein(a) generates a control regions of the apolipoprotein(a) generates a control regions a control region a control regions a control region a control regions a control region a control re A;Molecule type: mRNA A;Residues: 1-4948 cMCL> A;Cross-references: GB:X06290; EMBL:X06696; NID:g28619; PIDN:CAA29618.1; PID:g28620 A;Cross-references: GB:X06290; EMBL:X06696; NID:g28619; PIDN:CAA29618.1; PID:g28620 R;Eaton, D.L.; Fless, G.M.; Kohr, W.J.; McLean, J.W.; Xu, Q.T.; Miller, C.G.; Lawn, R.M.; Proc. Natl. Acad. Sci. U.S.A. 84, 3224-3228, 1987 Proc. Natl. Acad. Sci. U.S.A. 84, 324-3228, 1987 A;Title: Partial amino acid sequence of apolipoprotein(a) shows that it is homologous to A;Reference number: A28017; MUID:87204109; PMID:3472206 Nature 330, 132-137, 1987
A;Title: CDNA sequence of human apolipoprotein(a) is homologous to plasminogen.
A;Reference number: S00657; MUID:88039109; PMID:3670400
A;Accession: S00657 R; Ichinose, A. A; Molecule type: DNA A; Residues: 1-16 < RE5> A;Reference number: A47233; MUID:93087573; PMID:1454851 A;Accession: I60906 A;Status: preliminary; translation not shown; translated A;Molecule type: DNA A;Residues: 1-16 <RES> A; Cross-references: A;Status: preliminary; translation A; Molecule type: protein A; Residues: 20-21, 'P', 23-34;177-179, 'N', 181-186, 'T', 188-196, 'DKG', 200; 292-314, 'W', 316-316 A; Accession: A28017 GB:M90078; NID:g178786; PIDN:AAA35547.1; PID:g553188 1 (nomenclature of reference I52415) GB:M90079; NID:g178784; PIDN:AAA35546.1; not shown; translated A.C.; Zysow, B.R.; Meer, K.; Schwartz, K. gene from GB/EMBL/DDBJ from and PID:g553187 GB/EMBL/DDBJ members of the Lawn, R.M.; Scan

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TBHU

thrombin plasmin

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F;1054-1131/Domain: kringle homology <KR10>
F;1168-1245/Domain: kringle homology <KR11>
F;1168-1359/Domain: kringle homology <KR11>
F;1396-1473/Domain: kringle homology <KR11>
F;1396-1473/Domain: kringle homology <KR13>
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F;1510-1587/Domain: kringle homology <KR15>
F;1738-1815/Domain: kringle homology <KR16>
F;1738-1815/Domain: kringle homology <KR16>
F;194-2271/Domain: kringle homology <KR18>
F;2080-2157/Domain: kringle homology <KR20>
F;2194-2271/Domain: kringle homology <KR20>
F;2308-2385/Domain: kringle homology <KR21>
F;2536-2613/Domain: kringle homology <KR22>
F;2536-2613/Domain: kringle homology <KR23>
F;2650-2727/Domain: kringle homology <KR25>
F;2674-2841/Domain: kringle homology <KR25>
F;2764-2841/Domain: kringle homology <KR27>
F;3106-313/Domain: kringle homology <KR28>
F;2992-3069/Domain: kringle homology <KR28>
F;3200-3297/Domain: kringle homology <KR28>
F;3314-3411/Domain: kringle homology <KR30>
F;3344-3525/Domain: kringle homology <KR30>
F;3462-3639/Domain: kringle homology <KR31>
F;3676-3753/Domain: kringle homology <KR31>
F;3676-3753/Domain: kringle homology <KR33>
F;3782-3859/Domain: kringle homology <KR35>
F;4010-4087/Domain: kringle homology <KR365
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A;Molecule type: DNA
A;Residues: 1-16 <RE3>
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A;Note: apo(a) gene 1 (nomenclature of reference I52415)
A;Accession: I65286
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A;Cross-references: GDB:120699; OMIM:152200
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A; Residues: 1-16 < RE4 >
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                                                                                                                                      4003
                                                               61
                                                                                                                                                                                                                                                                            91;
                                                                                                                                                                                                                                                                                                        Similarity
DSGKQPWCYTTDPCVRWEYCNLTQCSETESG 4093
                                          DSGKQPWCYTTDPCVRWEYCNLTQCSETESG 91
                                                                                                                                  KSPVVQDCYHGDGRSYRGISSTTVTGRTCQSWSSMIPHWHQRTPENYPNAGLTENYCRNP
                                                                                                                                                                         KSPVVQDCYHGDGRSYRGISSTTVTGRTCQSWSSMIPHWHQRTPENYPNAGLTENYCRNP 60
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kringle
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Pred. No. 2.4e-44;
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F;726-803/Domain: kringle homology <KR7>
F;840-917/Domain: kringle homology <KR8>
F;954-1031/Domain: kringle homology <KR8>
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C;Species: Macaca mulatta (rhesus macaque)
C;Date: 22-Nov-1989 #sequence_revision 22-Nov-1989 #text_change 22-Jun-1999
C;Accession: A32869; A30848
R;Tomlinson, J.E.; McLean, J.W.; Lawn, R.M.
J. Biol. Chem. 264, 5957-5965, 1989
                                                                                                                                       r;481-560/Domain: kringle homology <KR5>
F;581-803/Domain: trypsin homology <TRY>
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bonds: #status predicted
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F;377-454/Domain: kringle homology <KR5>
F;481-560/Domain: kringle homology <KR5>
F;581-803/Domain: trypsin homology <TRY>
F;581-803/Domain: trypsin homology <TRY>
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F;1-9/Domain: signal sequence #status predicted <SIG>
F;1-9/Domain: kingle homology <KR1>
F;10-181/Domain: kingle homology <KR1>
F;10-181/Domain: kingle homology <KR1>
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A;Title: Rhesus monkey apolipoprotein(a). Sequence, evolution,
A;Reference number: A32869; MUID:89174660; PMID:2925643
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         plasmin (EC 3.4.21.7) precursor - rhesus macaque C;Species: Macaca mulatta (rhesus macaque) C;Date: 31-Mar-1989 #sequence_revision 31-Mar-1989 #text_change 22-Jun-1999 C;Date: 31-Mar-1989 #sequence_revision 31-Mar-1989 #text_change 22-Jun-1999 C;Accession: B32869; B30848
R;Tomlinson, J.E.; McLean, J.W.; Lawn, R.M.
J. Biol. Chem. 264, 5957-5965, 1989
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A; Residues: 1-1420 < TOM>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A; Molecule type: mRNA
A; Residues: 1-810 < TOM>
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                                                                                                              F;622,665,760/Active site: His, Asp, Ser #status predicted
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68;
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Pred. No. 1.8e-42;
                            Score 425; DB 2;
Pred. No. 6.7e-34;
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Mismatches
                                                        DB 2; Length 810;
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Matches

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R;Sottrup-Jensen, L.; Petersen, T.B.;
submitted to the Atlas, July 1977
A;Reference number: A00929
A;MoLecule to the Alas, July 1977
A;MoLecule to the Adolese to the Agents of the Agents A00929
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C;Date: 24-Apr-1984 #sequence revision 02-Dec-1994 #text change 15-Sep-2000
C;Accession: A35229; IS2242; Ā26646; I62738; I84609; S03735; A00929; A04627; A04625; A04
R;Petersen, T.E.; Martzen, M.R.; Ichinose, A.; Davie, E.W.
J. Biol. Chem. 265, 6104-611, 1990
A;Title: Characterization of the gene for human plasminogen, a key proenzyme in the fibr A;Reference number: A35229; MUID:90202879; PMID:2318848
A;Accession: A35229; MUID:90202879; PMID:2318848
A;Accession: A35229; MUID:90202879; PMID:2318848
                                                                                                                                                                                                                        A;Cross-references: GB:K02921; NID:g190110; PIDN:AAA60123.1; PID:g190111
R;Brunisholz, R.A.; Lerch, P.G.; Schaller, J.; Rickli, E.B.; Lergier, W.; Manneberg, M.
Bur. J. Biochem. 114, 465-470, 1981
A;Title: Comparison of the primary structure of the N-terminal CNBr fragments of human,
A;Reference number: S03735; MUID:81212097; PMID:7238497
A;Accession: S03735
A;Molecule type: protein
A;Residues: 20-71,'E',73-76 CBRU>
A;Residues: 20-71,'E',73-76 CBRU>
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R;Malinowski, D.P.; Sadler, J.E.; Davie, E.W.
Biochemistry 23, 4243-4250, 1984
A;Title: Characterization of a complementary deoxyribonucleic
A;Reference number: I45961; MUID:85023311; PMID:6148961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A;Molecule type: mRNA
A;Residues: 292-471,'D',473-810 <MAL2>
A;Cross-references: GB:K02922; NID:g190112;
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A;Residues: 1-471,'D',473-810 <FOR>
A;Cross-references: GB:X(5199; NID:g35530; PIDN:CAA28831.1;
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A;Residues: 1-810 <PET>
A;Cross-references: GB::05286; GB::M34276; NID::g190064; PIDN:AAA60113.1; PID::g387026
A;Cross-references: GB::05286; GB::M34276; NID::g190064; PIDN:AAA60113.1; PID::g387026
A;Experimental source: leukocyte; lung fibroblast
A;Experimental source: leukocyte; lung fibroblast
B;A;Malgaretti, N.; Bruno, L.; Pontoglio, M.; Candiani, G.; Meroni, G.; Ottolenghi, S.; Ta
Biochem. Biophys. Res. Commun. 173, 1013-1018, 1990
A;Title: Definition of the transcription initiation site of human plasminogen gene in li
A;Reference number: I52242; MUID:91097523; PMID:2268308
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A; Residues: 367-419 < MAL3 >
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A; Molecule type: mR
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A;Status: translated from GB/EMBL/DDBJ
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Molecule type: protein Residues: 20-71,'E',73-85,87-106,'D',108-360,'E',362-810
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Residues: 1-16 <MAL1>
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A;Contents: annotation; active site
R;Trexler, M.; Vali, Z.; Patthy, L.
J. Biol. Chem. 257, 7401-7406, 1982
A;Title: Structure of the omega-aminocarboxylic acid-binding sites
A;Reference number: A92382; MUID:82213905; PMID:6919539
A;Contents: annotation; omega-aminocarboxylic acid binding sites
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J. Biol. Chem. 248, 1631-1633, 1973
A;Title: The primary structure of human plasminogen. II.
A;Reference number: A92125; MUID:73149248; PMID:4694729
A;Contents: annotation; active site
A;Conskopf, W.R.; Summaria, L.; Robbins, K.C.
J. Biol. Chem. 244, 3590-3597, 1969
A;Title: Studies on the active center of human plasmin. P
A;Reference number: A92048; MUID:69234739; PMID:4240117
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Bur. J. Biochem. 58, 539-547, 1975

A;Title: Amino-acid sequence of the cyanogen-bromide fragment from A;Reference number: A04626; MUID:76043692; PMID:126863

A;Accession: A04626
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A;Title: Generation of an angiostatin-like fragment from plasminogen by stromelysin-l A;Reference number: A58812; MUID:9548733; PMID:9548733
A;Contents: annotation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A;Contents: annotation; fibrin binding site; omega-aminocarboxylic acid binding site R;Cao, Y.; Ji, R.W.; Davidson, D.; Schaller, J.; Marti, D.; Soehndel, S.; McCance, S.G.; J. Biol. Chem. 271, 29461-29467, 1996
A;Title: Kringle domains of human angiostatin. Characterization of the anti-proliferative A;Reference number: A58811; MUID:97067211; PMID:8910613
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J. Biol. Chem. 259, 13690-13694, 1984
A.Title: The fibrin-binding site of human plasminogen. Arginines 32
A.Reference number: A92458; MUID:85054794; PMID:6094526
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             submitted to the Brookhaven Protein Data Bank, July 1991
A;Reference number: A51341; PDB:1PK4
A;Contents: annotation; X-ray crystallography, 1.9 angstroms, residues 376-454
                                                                                                                                             submitted to the Brookhaven Protein Data Bank, A; Reference number: A65244; PDB:1CEA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    submitted to the Brookhaven Protein Data Bank, A;Reference number: A51488; PDB:2PK4
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R; Robbins, K.C.;
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A; Residues: 483-507, 'E', 509-604 <WI3>
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A;Title: Primary structure of the B-chain of human
A;Reference number: A04627, MUID:77225245; PMID:142
A;Accession: A04627
                                          A;Contents: annotation; X-ray crystallography, R;Tulinsky, A.; Mathews, I.I.
                                                                                                                                                                                                                                            A;Contents: annotation; X-ray crystallography, R;Tulinsky, A.; Mathews, I.I.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A; Contents: annotation; X-ray crystallography,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      T.P.; Tulinsky, A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Structural relationship
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Biochem. 50, 489-494, 1975
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         20-50,'Q',51-71,'B',73-85,87-100 <WI2
Brookhaven Protein Data Bank,
                                                                                                                                                                                                                                                                                                                                                Tulinsky, A.
Tulin
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PMID:142009
     December 1995
                                                                                                                                                                                                       December 1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2.48 angstroms,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         July 1991
                                                                                                                                                                                                                                                                                           2.25 angstroms,
                                                                                                                                                                                                                                                                                                                                                                                                    April 1994
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        residues 102-181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   of human plasminogen
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A; Pathway: fibrinolys
C; Superfamily: plasmin
C; Keywords: angiogener
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Eur. J. Biochem. 221, 939-949, 1994
A;Title: Solution structure of the epsilon-aminohexanoic acid complex of human plasminoc A;Reference number: A5817; MUID:94237158; PMID:8181476
A;Contents: annotation; conformation by (1)H-NMR
C;Comment: Plasminogen is synthesized by the kidney and is present in plasma and many ot C;Comment: Plasminogen is converted to plasmin by plasminogen activators (see PIR:UKHU a PIR:FGHUGB).
                                                                                                                                                                                                                                                                                                                                                                                F;1-96/Domain: glasminogen-related protein precursor homology F;1-19/Domain: glasminogen-related protein precursor homology F;1-19/Domain: signal sequence #status predicted <SIG>F;20-810/Product: mlasminocom #n-----
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              R;Wu, T.P.; Padmanabhan, K.; Tulinsky, A.; Mulichak, A.M.
Biochemistry 30, 10589-10594, 1991
A;Title: The refined structure of the epsilon-aminocaproic acid complex
A;Reference number: A58818; MUID:92031503; PMID:1657149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Biochemistry 30, 10576-10588, 1991
A;Title: Crystal and molecular structure of human plasminogen
A;Reference number: A58819; MUID:92031502; PMID:1657148
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A;Reference number: A65245; PDB:1CEB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A;Cross-references: GDB:119498; OMIM:173350
A;Map position: 6q26-6q27
A;Introns: 17/1; 62/2; 98/1; 136/2; 183/1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             C;Comment: Plasmin is inactivated by alpha-2-antiplasmin (see PIR.ITHUA2) immerg-580, resulting in two chains connected by two disulfide bonds. Without the C;Comment: Microplasmin is formed by autolytic cleavage of plasmin under artific;Comment: Stromelysin 1 (see PIR:KCHUS1) acts on plasminogen to produce angic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A;Title: (1)H-NMR assignments and secondary structure of human plasminogen A;Reference number: S43645; MUID:94237157; PMID:8181475 A;Contents: annotation; conformation by (1)H-NMR, residues 96-184
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A;Contents: annotation; conformation by (1)H-NMR, residues R;Rejante, M.; Llinas, M. submitted to the Brookhaven Protein Data Bank, August 1996 A;Reference number: A65804; PDB:1HPK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           R;Rejante, M.; Llinas, M. submitted to the Brookhaven Protein Data Bank, August 1996 A;Reference number: A65803; PDB:HPJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Biochemistry 31, 270-279, 1992
A;Title: Crystal structure of the kringle 2 domain of tissue
A;Reference number: A39483; MUID:92118803; PMID:1310033
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A;Description: dissolves the fibrin of blood clots; acts as a proteolytic factor in a vans the walls of the graafian follicle; also activates the urokinase-type plasminogen act
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       C; Function:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     C;Genetics:
A;Gene: GDB:PLG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             R;Rejante, M.R.; Llinas, M.
Eur. J. Biochem. 221, 927-937, 1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ting solid tumors
                              ;97-580/Domain: plasmin chain A #status experimental <CHA>;103-181/Domain: kringle homology <KR1>;185-262/Domain: kringle homology <KR2>;275-352/Domain: kringle homology <KR3>;377-454/Domain: kringle homology <KR4>;481-560/Domain: kringle homology <KR4>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 de Vos, A.M.; Ultsch, M.H.; Kelley, R.F.; Padmanabhan, K.; Tulinsky, A.; Westbrook,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mulichak, A.M.;
                                                                                                                                                                                                                                                     79-466/Product: angiostatin #status experimental <AST>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Superfamily: plasmin; kringle homology; plasminogen-related protein precursor homology;
Keywords: angiogenesis inhibitor; blood; duplication; fibrinolysis; glycoprotein; hydr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Contents:
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                                                                                                                                                                                                                                                                                                                                     0-96/Domain: activation peptide #status experimental <APT>
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A.M.; Tulinsky, A.; Ravichandran, K.G.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  annotation; conformation
                                                                                                                                                                                                                                                                                                                                                                            plasminogen #status experimental <PRO>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          98/1; 136/2; 183/1; 223/2; 263/1; 317/2; 366/1; 419/2; 480/1; 52
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microplasmin
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   #status experimental <MMT>
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                                                                                                                                                                                                                                                                    <MAT>
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A; Pathway:
C; Superfami
C; Keywords:
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R;Brunisholz, R.A.; Lerch, P.G.; Schaller, J.; Rickli, E.E.; Lergier, W.; Manneberg, M. Eur. J. Biochem. 114, 465-470, 1981
A;Title: Comparison of the primary structure of the N-terminal CNBr fragments of human, A;Reference number: S03735; MUID:81212097; PMID:7238497
A;Accession: S03736
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A;Experimental source: liver
A;Note: it is uncertain whether Met-1 or Met-8 is the initiator
A;Note: it is uncertain whether Met-1 or Met-8 is the initiator
R;Schaller, J.; Moser, P.W.; Dannegger-Muller, G.A.K.; Rosselet, S.J.; Kampfer, U.; Rickl
Eur. J. Blochem. 149, 267-278, 1985
Eur. J. Blochem. 149, 267-278, 1985
A;Title: Complete amino acid sequence of bovine plasminogen. Comparison with human plasmi
A;Reference number: A25835; MUID:85203906; PMID:3846532
A;Accession: A25835
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            C;Species: Bos primigenius taurus (cattle)
C;Date: 30-Sep-1987 #sequence_revision 28-Apr-1995 #text_change 18-Jun-199
C;Accession: S45046; A25835; T45961; S033736
R;Berglund, L.; Andersen, M.D.; Petersen, T.E.
submitted to the EMBL Data Library, May 1994
A;Description: Cloning and characterizatin of the bovine plasminogen cDNA.
A;Reference number: S45046
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A; Description: dissolves the ns the walls of the graafian
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A;Molecule type: mRNA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A; Molecule type: protein
A; Residues: 27-334, 'D', 336-515, 'H', 517-554, 'L', 556-812 <SCH:
R; Malinowski, D.P.; Sadler, J.E.; Davie, B.W.
Biochemistry 23, 4243-4250, 1984
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                                                     F;282-359/Domain: kringle homology <KR3>F;384-461/Domain: kringle homology <KR4>F;486-564/Domain: kringle homology <KR5>F;486-564/Domain: plasmin chain B #status experimental <BCH>F;584-812/Domain: plasmin chain B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A; Molecule type: protein A; Residues: 27-83 < BRU>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A; Molecule type: mRNA
A; Residues: 706-743, 'R', 745-812
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    N;Alternate names: plasminogen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             plasmin (EC 3.4.21.7) precursor -
                                                                                                                                                                            F;110-188/Domain: kringle homology <KR1>
F;192-269/Domain: kringle homology <KR2>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A;Residues:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A; Accession: S45046
                                                                                                                                                                                                                                                                                                                                              Cross-references: EMBL:X79402; NID:g494962; PIDN:CAA55939.1; PID:g494963
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Matches
                                                                                                                                                                                                                                                                                                  27-103/Domain: activation peptide #status experimental
                                                                                                                                                                                                                                                                                                                               27-812/Product: plasminogen #status
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Best Local Similarity
15/Domain: Erypsin homology <TRY>
60-68,110-188,131-171,159-183,192-269,195-323,213-252,241-264,282-359,303-342,331
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      371 TPVVQDCYHGDGQSYRGTSSTTTTGKKCQSWSSMTPHRHQKTPENYPNAGLTMNYCRNPD
                                                                                                                                                                                                                                                                584-812/Product: plasmin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     fibrinolysis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           62 SGKOPWCYTTDPCVRWEYCNLTQCSETES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1-812 <BER>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2 SPVVQDCYHGDGRSYRGISSTTVTGRTCQSWSSMIPHWHQRTPENYPNAGLTENYCRNPD
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                                                                                                                                                                                                                                       plasmin chain A #status
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 fibrin of blood clots; acts as a proteolytic factor in a follicle; also activates the urokinase-type plasminogen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        <MAL>
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8; Mismatches
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                                                                                                                                                                                                                                                                                                                                     experimental <PRO>
                                                                                                                                                                                                                                          experimental
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C;Species: Capra aegagrus hir
C;Date: 28-Oct-1994 #sequence
C;Accession: C61545
R;Schaller, J.; Rickli, E.E.
Enzyme 40, 63-69, 1998
A;Title: Structural aspects o
A;Reference number: A61545; M
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F;41-118/Domain: kringle
A; Molecule type: protein
A; Residues: 1-57 < BRU's
R; Marri, T.; Schaller, J.; Ricl
Eur. J. Biochem. 149, 279-285,
                                                                                                                          A;Molecule type: protein
A;Residues: 1-560 <SCH>
A;Residues: 1-560 <SCH>
A;Residues: 1-560 <SCH>
B;Rerunisholz, R.A.; Lerch, P.G.; Schaller, J.; Rickli, E.E.; Lergier, W.; Manneberg, M.
R;Brunisholz, R.A.; Lerch, 1981
Eur. J. Biochem. 114, 465-470, 1981
Eur. J. Biochem. 114, 465-470, 1981
Eyr. J. Biochem. 114, 465-47
                                                                                                                                                                                                                                                                                                                                                                                                                                                             N;Alternate names: plasminogen
N;Contains: miniplasminogen
C;Species: Sus scrofa domestica (domestic pig)
C;Species: Sus scrofa domestica (domestic pig)
C;Date: 07-Sep-1990 #sequence revision 01-Nov-1996 #text_change 18-Jul-1997
C;Date: 07-Sep-1990 #sequence revision 01-Nov-1996 #text_change 18-Jul-1997
C;Accession: S03737; A25834
R;Schaller, J: Marti, T: Roesselet, S.J.; Kaempfer, U:; Rickli, E.E.
Fibrinolysis 1, 91-102, 1987
Fibrinolysis 1, 91-102, 1987
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A;Molecule type: protein
A;Residues: 1-123 <SCH>
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F;365/Binding site: carbohydrate (Se:
F;624,667,762/Active site: His, Asp,
                                                                                                                                                                                                                                                                                                                                                                         A; Accession: S03733
                                                                                                                                                                                                                                                                                                                                                                                                        A; Reference number: S03733
                                                                                                                                                                                                                                                                                                                                                                                                                                        A; Title: Amino acid sequence of the heavy chain of porcine plasmin. Comparison
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               plasmin (EC 3.4.21.7) precursor -
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Matches 67
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77.3%;
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81.7%;
                                   Rickli,
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(Ser)
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Pred. No. 1e-32;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        11;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   #text_change 12-May-1995
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
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F;166-243/Domain: kringle homology <KR2>
F;256-333/Domain: kringle homology <KR3>
F;358-435/Domain: kringle homology <KR4>
F;358-435/Domain: kringle homology <KR4>
F;350-790/Product: miniplasminogen #status experimental <MIN>
F;461-540/Domain: kringle homology <KR5>
F;461-790/Product: pingle homology <KR5>
F;561-790/Product: pingle homology <KR5>
F;561-790/Produc
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A;Description: dissolves the ns the walls of the graafian
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A; Molecule type: protein A; Residues: 450-790 < MAR
문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  C;Keywords: fibrinolysis; glycoprotein; hydrolase; k: F;1-790/Product: plasminogen #status predicted <PRO>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A;Pathway: fibrinolysis
C;Superfamily: plasmin; kringle homology; plasminogen-related protein precursor homology;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A; Reference number: A25834;
A; Accession: A25834
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A; Title: Determination of the complete amino-acid sequence A; Reference number: A25834; MUID:85203907; PMID:3846533
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                F;602,645,740/Active site: His, Asp,
                                                                                                                                                                                                                                                                                                                                                        Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                #status predicted
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                                                                                                                                                                                                                                                                                                                                                        l Similarity
66; Conserv
                                              DSGKQPWCYTTDPCVRWEYCNLTQCSETE 89
DADKSPWCYTTDPRVRWEYCNLKKCSETE 439
                                                                                                                                                                                                                               KSPVVQDCYHGDGRSYRGISSTTVTGRTCQSWSSMIPHWHQRTPENYPNAGLTENYCRNP
                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                             74.6%;
74.2%;
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follicle; also a
                                                                                                                                                                                                                                                                                                                                                        9;
                                                                                                                                                                                                                                                                                                                                                                                                  Score 402; DB 1;
Pred. No. 1.2e-31
                                                                                                                                                                                                                                                                                                                                                             Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ser #status predicted
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                                                                                                                                                                                                                                                                                                                                                        14;
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                                                                                                                                                                                                                                                                                                                                                                                                                                       Length
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C;Comment: Plasminogen is synthesized by the kidney and is present in plasma and many oth C;Comment: Plasminogen is converted into plasmin by plasminogen activators, both plasmin mediately after dissociation from the clot. In the presence of the inhibitor, the activate inhibitor, the activated inhibitor, the activation involves also removal of the activation peptide.
C;Comment: Stromelysin 1 (see PIR:KCMSS1) acts on plasminogen to produce angiostatin. Togeful in treating solid tumors. A;Cross-references: GB:J04766; NID:g200402; PIDN:AAA50168.1; R;Lijnen, H.R.; van Hoef, B.; Beelen, V.; Collen, D. Eur. J. Biochem. 224, 863-871, 1994
A;Title: Characterization of the murine plasma fibrinolytic & A;Reference number: S48202; MUID:95010076; PMID:7523120 A; Molecule type: protein A; Residues: 22-27 <LI2> A; Molecule type: protein A; Residues: 20-25 < LIJ> A; Accession: S48203 A; Accession: S48202 A; Reference number: A; Accession: A38514 A;Title: A; Residues: 1-812 < DEG> A; Molecule type: mRNA Characterization of the cDNA coding for mouse plasminogen nce number: A38514; MUID:91184812; PMID:2081600 PID: 9200403 18-Jun-1999 and localization

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A; Description:

dissolves

the fibrin of blood clots;

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proteolytic factor

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A;Molecule type: protein
A;Residues: 1-33,34-117 <SCH>
R;Residues: 1-33,34-117 <SCH>
R;Schaller, J; Straub, C;; Kaempfer, U; Rickli, E.E.
R;Schaller, J; Straub, C; Kaempfer, U; Rickli, E.E.
Protein Seq. Data Anal. 4, 69-74, 1991
A;Title: Complete amino acid sequence of equine miniplasminogen.
A;Title: Complete amino acid sequence of equine miniplasminogen.
A;Reference number: S17527
A;Reference number: S17527
A;Recession: S17527
A;Recession: S17527
A;Recession: S17527
A;Recession: S17527
A;Recidues: 118-455 <SCC2>
C;Superfamily: plasmin; kringle homology; plasminogen-related protein precursor homology
C;Superfamily: plasmin; kringle homology; plasminogen-related protein proteinase; z
F;1-33,34-117,118-455/Product: plasminogen (fragments) #status experimental <APT>
F;1-31/Domain: activation poptide (fragment) #status experimental <APT>
F;37-114/Domain: kringle homology <KR4>
F:10-AEC-Paroduct: plasmin (fragments) #status experimental <AMT>
F:10-AEC-Paroduct: plasmin (fragments) #status experimental <AMT>
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F;20-812/Product: plasminogen #status predicted <PRO>
F;20-96/Domain: activation peptide #status predicted <APT>
F;20-96/Domain: angiostatin #status predicted <AST>
F;99-466/Product: angiostatin #status predicted <AST>
F;97-581_S82-812/Product: plasmin #status predicted <AST>
F;97-581_Domain: chain A #status predicted <ACH>
F;103-181/Domain: kringle homology <KR1>
F;103-181/Domain: kringle homology <KR2>
F;185-262/Domain: kringle homology <KR2>
F;185-262/Domain: kringle homology <KR3>
F;377-454/Domain: kringle homology <KR3>
F;377-454/Domain: kringle homology <KR3>
F;381-560/Domain: kringle homology <KR5>
F;582-805/Domain: chain B #status predicted <BCH>
F;882-805/Domain: chain B #status predicted <BCH>
F;49-73,53-61,103-181,124-164,152-176,185-262,188-316,206-245,234-257,275-352,296-335,32
F;118-455/Product: miniplasminogen #status experimental <MIN>
F;126-205/Domain: kringle homology <RK5>
F;226-455/Domain: plasmin chain B #status experimental <BCH>
F;226-448/Domain: trypsin homology <TRY>
F;267,310,405/Active Bite: His, Asp, Ser #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    plasmin (EC 3.4.21.7) precursor - horse (f N;Alternate names: plasminogen N;Contains: miniplasminogen C;Species: Equus caballus (domestic horse) C;Date: 28-Oct-1994 #sequence revision 01-C;Accession: A61545; S17527 R;Schaller, J; Rickli, E.E.
Enzyme 40, 63-69, 1988
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               bonds: #status predicted

F;78-79/Cleavage site: Glu-Asn (stromelysin 1) #status predicted

F;136,308/Binding site: carbohydrate (Asn) (covalent) #status predicted

F;436-467/Cleavage site: Thr-Val (stromelysin 1) #status predicted

F;581-582/Cleavage site: Arg-Val (plasminogen activator) #status experin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Enzyme 40, 63-69, 1988
A;Title: Structural aspects of the plasminogen of various species A;Reference number: A61545; MUID:89005015; PMID:3168975
A;Accession: A61545
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;1-96/Domain: blasminogen-#status predicted <SIG>
;20-812/Product: plasminogen #status predicted <PRO>
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Best Local S
Matches 62
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          370 QTPVVQECYQSDGQSYRGTSSTTITGKKCQSWAAMFPHRHSKTPENFPDAGLEMNYCRNP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61 DSGKQPWCYTTDPCVRWEYCNLTQCSET 88
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       62;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            horse (fragments)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       01-Nov-1996 #text_change 18-Jul-1997
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plasmin (BC 3.4.21.7) precursor - sheep N; Alternate names: plasminogen N; Contains: miniplasminogen C; Species: Ovis orientalis aries, Ovis an C; Date: 28-cct-1994 #sequence revision 01 C; Accession: B61545; S28200 R; Schaller, J.; Alckli, E.E.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A;Accession: B61545
A;Molecule type: protein
A;Residues: 1-37,38-117 <SCH>
A;Residues: 1-37,38-117 <SCH>
R;Schaller, J.; Straub, C.; Kaempfer, U.; Rickli, E.E.
Protein Seq. Data Anal. 5, 21-25, 1992
A;Title: Complete amino acid sequence of ovine miniplasminogen.
A;Reference number: S28200; MUID:93149995; PMID:1492092
A;Accession: S28200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 F;118-460/Product: miniplasminogen #status experimental <MIN>
F;132-211/Domain: kringle homology <KR5>
F;236-460/Domain: plasmin chain B #status experimental <BCH>
F;231-453/Domain: trypsin homology <TRY>
F;272,315,410/Active site: His, Asp, Ser #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       C;Superfamily: plasmin; kringle homology; plasminogen-related protein precursor homology; C;Keywords: fibrinolysis; glycoprotein; hydrolase; kringle; plasma; serine proteinase; z) F;1-37,38-117,118-460/Product: plasminogen (fragments) #status experimental <PRO> F;1-37/Domain: activation peptide (fragment) #status experimental <APT> F;38-117,118-230,231-460/Product: plasmin (fragments) #status experimental <MAT> F;41-118/Domain: kringle homology <KR4>
A;Title: Structural aspects of the plasminogen of vario A;Reference number: A61545; MUID:89005015; PMID:3168975 A;Accession: E61545
                                                                                                                                            plasmin (EC 3.4.21.7) precursor - dog N,Alternate names: plasminogen C,Species: Canis lupus familiaris (dog) C,Date: 28-Oct_1994 #sequence_revision
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A; Residues: 118-460 <SC2>
C; Superfamily: plasmin; k;
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Enzyme 40, 63-69, 1988
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                                                                           R;Schaller, J.; Rickli, Enzyme 40, 63-69, 1988
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                                                                                                                        C; Accession: E61545
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75.3%;
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76.2%;
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01-Nov-1996 #text_change 17-Mar-1999
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A; Molecule type: protein

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A; Residues:
C; Superfamil
C; Keywords:
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F;1-96/Domain: plasminogen-related protei
F;103-181/Domain: kringle homology <KR1-
F;185-262/Domain: kringle homology <KR2>
F;275-352/Domain: kringle homology <KR3>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A;Molecule type: mRNA
A;Residues: 1-810 <LAW>
A;Residues: 1-810 <LAW>
A;Cross-references: EmBL:U33171; NID:g1046360; PID:g1046361
A;Cross-references: EmBL:U33171; NID:g1046360; PID:g1046361
C;Superfamily: plasmin; kringle homology; plasminogen-related
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  plasmin (EC 3.4.21.7) precursor - western European hedgehog
C;Species: Erinaceus europaeus (western European hedgehog)
C;Date: 21-Feb-1997 #sequence_revision 21-Feb-1997 #text_change 16-Jul-1999
A;Molecule type: mRNA
A;Residues: 1-169 <KAN>
A;Cross-references: GB:M62832;
A;Note: the authors translated
                                                                                                        A; Title: Identification of the rat Heymann nephritis autoantigen A; Reference number: A40522; MUID:91250378; PMID:1645711
                                                                                                                                                              R;Kanalas,
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                                                                                                                                                                                          plasmin (EC 3.4.21.7) precursor - rat (fragment)
C;Species: Rattus norvegicus (Norway rat)
C;Date: 28-Peb-1992 #sequence_revision 17-Apr-1993
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A; Title: The recurring evolution of Lp(a):
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              R; Lawn, R.M.; Boonmark, N.W.; Schwartz, K.; Lindahl, G.B.; Wade,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       C; Accession: I46260
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                                                                      A; Status: preliminary
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                                                                                                                                                              J.J.; Makker, S.P.
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                                                                                                                                               266, 10825-10829, 1991
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kringle homology <KR4>
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Pred. No. 2.6e-29;
3; Mismatches 15
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 :g206215; PIDN:AAA41884.1; codon TCT for residue 76
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RESULT 15
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                                                                                                                                                                                                      R;Lawn, R.M.; Boonmark, N.W.; Schwartz, K.; Lindahl, G.E.; Wade, J. Biol. Chem. 270, 24004-24009, 1955
A;Title: The recurring evolution of Lp(a): Insights from cloning A;Reference number: I46259; MUID:96025778; PMID:7592597
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    N;Alternate names: plasminogen
C;Species: Gallus gallus (chicken)
C;Date: 22-Jan-1993 #sequence_revision
                                                                A;Experimental source: liver C;Comment: The lipoprotein Li ent apolipoprotein(a).
                                                                                                                                     A; Molecule type: mRNA
A; Residues: 1-2869 < LAW>
                                                                                                                                                                                                                                                                                       apolipoprotein(a) - western European hedgehog (fragment)
C;Species: Erinaceus europaeus (western European hedgehog)
C;Date: 15-Oct-1999 #sequence_revision 15-Oct-1999 #text_change 07-Dec-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Biochim. Biophys. Acta 832, 326-330, 1985
A;Title: The kringle 4 domain of chicken plasminogen.
A;Reference number: A60140; MUID:86077796; PMID:4074733
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N;Alternate names: pla
                                                                                                                   A; Cross-references: EMBL: U33170;
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Similarity

Conservative

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Gaps

Search Job tin	В	ş	Дb	ş
Search completed: January 12, 2004, 17:26:23 Job time : 12.3158 весв	2740 VAPWĆYTTNSAVRWEYCKIPSĆNSSSŚ 2766	64 KQPWCYTTDPCVRWEYCNLTQCSETES 90	2680 IPDQCLEGTGENYRGSVAVTVSGHTCQRWREQSPHSHSRTPENYPTKNLFGNYCRNPDGE 2739	4 VVQDCYHGDGRSYRGISSTTVTGRTCQSWSSMIPHWHQRTPENYPNAGLTENYCRNPDSG 63

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OM protein - protein search, using sw model
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Run on:

Title: Perfect score: Sequence:

US-10-088-548-4
539
1 KSPVVQDCYHGDGRSYRGIS......DPCVRWEYCNLTQCSETESG 91

January 12, 2004, 17:17:22; Search time 7.86842 Seconds (without alignments) 543.874 Million cell updates/sec

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 127863 seqs, 47026705 residues

Total number of hits satisfying chosen parameters: 127863

Minimum DB seq length: 0
Maximum DB seq length: 200000000

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

Database : SwissProt_41:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

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ALIGNMENTS

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VARIANT ARG-4193. MEDLINE=95002201; PubMed=7918682; Scanu A.M., Pfaffinger D., Lee J.C., Hinman J.; "A single point mutation (Trp72>Arg) in human apo(a) kringle 4-37 "A sesociated with a lysine binding defect in Lp(a).";	X-RAY CRYSTALLOGRAPHY (2.0 ANGSTROMS) OF 4121-4208. MEDLINE=96217891; PubMed=8642595; Mikol V., Lograsso P.V., Boettcher B.R.; "Crystal structures of apolipoprotein(a) kringle IV37 free and complexed with 6-aminohexanoic acid and with p-aminomethylbenzoic acid: existence of novel and expected binding modes."; J. Mol. Biol. 256:751-761(1996).	CHARACTERIZATION OF THE N- AND O-LINKED GLYCANS. MEDLINE=21303595; PubMed=11294842; MEDLINE=21303595; PubMed=11294842; MEDLINE=21303595; PubMed=11294842; "Structural elucidation of the N- and O-glycans of human apolipoprotein(a): role of o-glycans in conferring protease resistance."; J. Biol. Chem. 276:22200-22208(2001).	MEDLINE MEDLINE=90049223; PubMed=2530631; Utermann G.; "The mysteries of lipoprotein(a)."; Science 246:904-910(1989).	SERINE PROTEASE ACTIVITY. SERINE PROTEASE ACTIVITY. MEDLINE=90076123; PubMed=2531657; MEDLINE=90076123; PubMed=2531657; MEDLINE=90076123; PubMed=2531657; "Lipoprotein(a) binds to fibromectin and has serine proteinase activity capable of cleaving it."; EMBO J. 8:4035-4040(1989).	SEQUENCE FROM N.A. SEQUENCE FROM N.A. MEDLINE=88039109; PubMed=3670400; MCLean J.W., Tomlison J.E., Kuang WJ., Eaton D.L., Chen E.Y., Fless G.M., Scanu A.M., Lawn R.M.; "CDNA sequence of human apolipoprotein(a) is homologous to plasminogen."; plasminogen."; Nature 330:132-137(1987).	Homo sapiens (Human). Homo sapiens (Human). Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo. MCBI TaxID=9606;	HUMAN APOA HUMAN STANDARD; PRT; 4548 AA. P08519; 01-AUG-1988 (Rel. 08, Created) 01-AUG-1988 (Rel. 08, Last sequence update) 15-SEP-2003 (Rel. 42, Last annotation update) Apolipoprotein(a) precursor (EC 3.4.21) (Apo(a)) (Lp(a)).

apo-B100. Binds to fibronectin and

:

PTM: N- and O-glycosylated. The N-glycans are complex biantennary structures present in either a mono- or disialylated state. The O-glycans are mostly (80%) represented by the monosialylated core type I structure, NeuNAcalpha2-3Galbeta1-3GalNAc, with smaller amounts of disialylated and non-sialylated O-glycans also

amounts of disialylated and non-sialylated O-glycans also detected.

-I- DISEASE: Elevated plasma concentrations of apo(a) and its naturally occurring proteolytic fragments are correlated with atherosclerosis. Homology with plasminogen kringles IV and V is thought to underlie the atherogenicity of the protein, because the fragments are competing with plasminogen for fibrin (ogen) binding.
-I- MISCELLANEOUS: Apo(a) is known to be proteolytically cleaved, leading to the formation of the so called mini-Lp(a). Apo(a) fragments accumulate in atherosclerotic lesions, where they may promote thrombogenesis. O-glycosylation may limit the extent of proteolytic fragmentation.
-I- SIMILARITY: BELONGS TO PEPTIDASE FAMILY S1. PLASMINOGEN SUBFAMILY.
-I- SIMILARITY: Contains 38 kringle domains.

<u>:</u>

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There are no restrictions ng as its content is in

a collaboration

Usage

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R GO; GO:0004866; F:endopeptidase inhibitor activity; TAS.
R GO; GO:0004015; P:circulation; TAS.
R GO; GO:0009405; P:pathogenesis; TAS.
R InterPro; IPR001314; Chymotrypsin.
R InterPro; IPR001314; Chymotrypsin.
R InterPro; IPR001001; Kringle.
R InterPro; IPR001051; Kringle.
R InterPro; IPR001051; Kringle; 38.
R Pfam; PF00051; Kringle; 38.
R Pfam; PF00089; trypsin; 1.
R PRINTS; PR000125; CHYMOTRYPSIN.
R PRINTS; PR000135; Kringle; 38.
R PRINTS; PR000135; Kringle; 38.
R PRODOm; PD000395; Kringle; 38.
R SMART; SM00130; KR; 38.
R SMART; SM00130; Trypsin; 1.
R PROSITE; PS00021; KRINGLE 2; 38.
R PROSITE; PS00021; TRYPSIN_DOM; 1.
R PROSITE; PS00134; TRYPSIN_HII; 1.
R PROSITE; PS00134; TRYPSIN_BER; 1.
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$ 3KIV; 18-MAY-99.

$ 4KIV; 18-MAY-99.
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KRINGLE TYPE IV, 4.
KRINGLE TYPE IV, 5.
KRINGLE TYPE IV, 6.
KRINGLE TYPE IV, 7.
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                                                                                                          Polymorphism; 3D-structure.
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R Pfam; PF00051; kringle; 11.

R Pfam; PF00089; trypsin; 1.

R PFAm; PF00089; trypsin; 1.

R PRINTS; PR00018; KRINGLE.

R PRINTS; PR00018; KRINGLE.

R PRODOm; PD000395; Kringle; 10.

R SMART; SM00010; KR; 10.

R SMART; SM00010; Tryp SPC; 1.

R PROSITE; PS00021; KRINGLE 1; 10.

R PROSITE; PS00071; KRINGLE 2; 10.

R PROSITE; PS50240; TRYPSIN HIS; FALSE NEG.

PROSITE; PS00134; TRYPSIN SER; FALSE NEG.

R PROSITE; PS00135; TRYPSIN SER; FALSE NEG.

R PROSITE; PS00135; TRYPSIN SER; FALSE NEG.

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EMBL; J04635; AAA36833.1;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                InterPro; IPR000001; Kringle
InterPro; IPR001254; Ser_prot
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEROPS; S01.226;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PIR; A32869; A32869.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FUNCTION: Apo(a) is the main constituent of lipoprotein(a) (Lp(a)). It has serine proteinase activity and is able of autoproteolysis. Inhibits tissue-type plasminogen activator 1. Lp(a) may be a ligand for megalin/Gp 330.
SUBUNIT: Disulfide-linked to apo-B100. Binds to fibronectin and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SWISS-PROT entry is copyright. It is produced through a common the Swiss Institute of Bioinformatics and the EMBL
                                947
 61
                                                                                                               Similarity
DSGKQPWCYTTDPCVRWEYCNLTQCSETESG
                                                 KSPVVQDCYHGDGRSYRGISSTTVTGRTCQSWSSMIPHWHQRTPENYPNAGLTENYCRNP
                              KSPVVQDCYHGDGQSYRGTSSTTVTGRNCQSWSSMIPHWHQRTPENYPNAGLTRNYCRNP 1006
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                IPR001314; Chymotrypsin.
                                                                                                                                                                                                                              163
277
391
505
619
725
839
                                                                                                  Conservative
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                                                                                                                                                                ΑA;
                                                                                                                                                                                                                                                                                                                                                                                Atherosclerosis.
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355
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803
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1031
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KRINGLE 2.
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KRINGLE 5.
KRINGLE 6.
KRINGLE 7.
KRINGLE 8.
KRINGLE 9.
KRINGLE 10.
                                                                                                              Score 515; DB 1;
Pred. No. 1.7e-45;
                                                                                                                                                                               SERINE
                                                                                                  Mismatches
                                                                                                                                                                BE102949E03C5B0E CRC64;
                                                                                                                                                                                 PROTEASE
 91
                                                                                                                               Length 1420;
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PR00722; PR00018;

KRINGLE.
PROTHROMBIN.

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RESULT 3
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01-OCT-1989
28-FEB-2003
                                            InterPro; IPR003966; Prothrombin.
InterPro; IPR001254; Ser protease_Try.
Pfam; PF00051; kringle; 5.
Pfam; PF00024; PAN; 1.
Pfam; PF00089; trypsin; 1.
PRINTS; PR00722; CHYMOTRYPSIN.
                                                                                                                                                                    InterPro; IPR001314; Chymotrypsin.
InterPro; IPR000001; Kringle.
InterPro; IPR003014; PAN.
InterPro; IPR003609; Pan_app.
                                                                                                                                                                                                                                                                                                                                                                This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDLINE=89174660; PubMed=2925643;
Tomlinson J.E., McLean J.W., Lawn R.M.;
"Rhesus monkey apolipoprotein(a). Sequence, evolution,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Macaca mulatta (Rhesus macaque)
Eukaryota; Metazoa; Chordata; (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PLG.
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                                                                                                                                                                                                                                                                                        EMBL; J04697; AAA369
PIR; B32869; B30848.
                                                                                                                                                                                                                                                                                                                                                 entities requires a license agreement (Sor send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Cercopithecinae; Macaca.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Cercopithecidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     P12545;
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                                                                                                                                                                                                                                                      MEROPS;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  synthesis.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRODUCTS.

ENZYME REGULATION: CONVERTED INTO PLASMIN BY PLASMINOGEN
ENZYME REGULATION: CONVERTED INTO PLASMIN BY PLASMINOGEN
ACTIVATORS, BOTH PLASMINOGEN AND ITS ACTIVATOR BEING BOUND TO
FIBRIN. ACTIVATED WITH CATALYTIC AMOUNTS OF STREPTOKINASE.
MISCELLANBOUS: PLASMIN IS INACTIVATED BY ALPHA-2-ANTIPLASMIN
IMMEDIATELY AFTER DISSOCIATION FROM THE CLOT.
MISCELLANBOUS: IN THE PRESENCE OF THE INHIBITOR, THE ACTIVATION
INVOLVES ONLY CLEAVAGE AFTER ARG-580, RESULTITING IN 2 CHAINS HELD
TOGETHER BY 2 DISULFIDE BONDS. WITHOUT THE INHIBITOR, THE
ACTIVATION INVOLVES ALSO REMOVAL OF THE ACTIVATION DEPTIDE.
SIMILARITY: BELONGS TO PEPTIDASE FAMILY S1. PLASMINOGEN SUBFAMILY.
SIMILARITY: Contains 5 kringle domains.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Biol.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EMBRYONIC DEVELOPMENT, TISSUE REMODELING, TUMOR INVASION, AND INFLAMMATION; IN OVULATION IT WEAKENS THE WALLS OF THE GRAAFIAN FOLLICLE. IT ACTIVATES THE WALLS OF THE GRAAFIAN FOLLICLE. IT ACTIVATES THE WALLS OF THE GRAAFIAN FOLLICLE. IT ACTIVATES THE WALLS EVERAL COMPLEMENT ZYMOGENS, SUCH ACTIVATOR, COLLAGENASES FIRRIN, FIBRONECTIN, THROMBOSPONDIN, LAMININ AND VON WILLEBRAND FACTOR.

CATALYTIC ACTIVITY: Preferential cleavage: Lys-|-Xaa > Arg-|-Xaa;

CATALYTIC ACTIVITY: Preferential cleavage: Lys-|-Xaa > Arg-|-Xaa;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3iol. Chem. 264:5957-5965(1989).
FUNCTION: PLASMIN DISSOLVES THE FIBRIN OF BLOOD CLOTS AND ACTS A PROTEOLYTIC FACTOR IN A VARIETY OF OTHER PROCESSES INCLUDING EMBRYONIC DEVELOPMENT, TISSUE REMODELING, TUMOR INVASION,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              higher selectivity than trypsin. Converts fibrin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1007 DSGKHPWCYTTDPCVRWEYCNLTQCSETESG 1037
                                                                                                                                                                                                                                                                                                           J04697; AAA36901.1;
                                                                                                                                                                                                                                                                        P00747;
                                                                                                                                                                                                                                                    S01.233;
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(Rel. 12,
(Rel. 41,
                                                                                                                                                                                                                                                                        1PMK.
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                                                                                                                                                      Pan_app.
Prothrombin
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SMART; SM00473; PAN AP; 1.

SMART; SM000473; PYP SPC; 1.

SMART; SM00020; KRINGLE 1; 5.

PROSITE; PS00021; KRINGLE 2; 5.

PROSITE; PS50070; KRINGLE 2; 5.

PROSITE; PS500134; TRYPSIN DOM; 1.

PROSITE; PS00134; TRYPSIN SER; 1.

PROSITE; PS00135; TRYPSIN SER; 1.

Hydrolase; Serine protease; Plasma; Gl
Tissue remodeling; Blood coagulation;
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CHAIN
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SIGNAL
  431
                                                      62
                                                                                                                                                                                                                        68;
                                                                                                                                                                                                                                                 Similarity
  ADKGPWCFTTDPSVRWEYCNLKKCSGTE
                                       SGKQPWCYTTDPCVRWEYCNLTQCSETE
                                                                                                                                           SPVVQDCYHGDGRSYRGISSTTVTGRTCQSWSSMIPHWHQRTPENYPNAGLTENYCRNPD
                                                                                                            TPVVQECYHGDGQSYRGTSSTTTTGKKCQSWSSMTPHWHEKTPENFPNAGLTMNYCRNPD
                                                                                                                                                                                                                                                                                                                              Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                      78.8%;
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PLASMIN HEAVY CHAIN A.
ACTIVATION PEPTIDE.
PLASMIN SHORT FORM OF C.
PLASMIN SHORT FORM OF C.
PLASMIN LIGHT CHAIN B.
KRINGLE 1.
KRINGLE 2.
KRINGLE 3.
KRINGLE 4.
KRINGLE 4.
KRINGLE 5.
SERINGLE 5.
SERINGLE 5.
SERINGLE 5.
SERINGLE 7.
CHARGE RELAY SYSTEM.
OMEGA-AMINOCARBOXYLIC A
OMEGA-AMINOCARBOXYLIC A
OMEGA-AMINOCARBOXYLIC A
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OMEGA-AMINOCARBOXYLIC A
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BY SIMILARITY

BY SIMILARIT
                                                                                                                                                                                                                     Score 425; DB 1;
Pred. No. 1.9e-36;
0; Mismatches 10;
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1; Kringle; Zymogen; Repeat;
  458
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                                                                                                                                                                                                                                                                        Length 810;
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RESULT TO SEE TO
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SEQUENCE FROM N.A.
SEQUENCE FROM N.A.
MEDLINE=87162490; PubMed=3030813;
MEDLINE=87162490; PubMed=30308013;
MEDLINE=87162490; PubMed=30308013;
MEDLINE=87162490; PubMed=3030813;
MEDLINE=87162490; PubMed=3030813;
MEDLINE=87162490; PubMed=3030813;
MEDLINE=87162490; PubMed=3030813;
MEDLINE=87162490; PubMed=3030813;
MEDLINE=87162490; PubMed=87162490; PubMed=87162
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MEDLINE-750, Wallen P.;
Wiman B., Wallen P.;
Wiman B., Wallen P.;
"Structural relationship between.
of human plasminogen and their interaction.
of human peptide as studied by affinity chemical action of the company o
                               ACTIVE SITE.

ACTIVE SITE.

MEDLINE-73149248; PubMed=4694729;

Robbins K.C., Bernabe P., Arzadon L., Summaria L.;

"The primary structure of human plasminogen. II. The histidine of human plasmin: light (B) chain active center histidine seque J. Biol. Chem. 248:1631-1633(1973).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PLMN_HUI
P00747;
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MEDLINE=85023311; PubMeds-6148961;
Malinowski D.P., Sadler J.E., Davie E
"Characterization of a complementary
human and bovine plasminogen.";
Biochemistry 23:4243-4250(1984).
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MEDIJINE=90202879; PubMed=2318848;

MEDETER T.E., Martzen M.R., Ichinose

"Characterization of the gene for huma
in the fibrinolytic system.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Wiman B., Wallen P.; "Amino-acid sequence of the cyanogen-bromide fragment from human plasminogen that forms the linkage between the plasmin chains."; Eur. J. Biochem. 58:539-547(1975).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE OF 95-580; 581-626; 657-700 AND 732-810.
SOLTUD-Jensen L., Claeys H., Zajdel M., Petenon T.E., Magnusson S (In) Davidson J.F., Rowan R.M., Samama M.M., Desnoyers P.C. (eds.); Progress in Chemical fibrinolysis and thrombolysis, pp.3:191-209,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Bukaryota, Metazoa,
Mammalia, Eutheria:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE OF 483-604.
MEDLINE=76043692; Pu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE OF 20-100.
MEDLINE=75093329; PubMed=122932;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE OF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Raven Press, New York (1978).
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MEDLINE=92031503; PubMed=1657149; Wu T.-P., Padmanabhan K., Tulinsky "The refined structure of the epsil
                                                                               MEDLINE=92031502; PubMed=1657148; Mulichak A.M., Tulinsky A., Ravichandran "Crystal and molecular structure of humar refined at 1.9-A resolution.";
                                                                                                                                                                                                                   Sim B.K.,
                                                                                                                                                                                                                                                                               O'Reilly M.S., Holmgren L., Shing Y., Chen C., Rosenthal R.A., Moses M., Lane W.S., Cao Y., Sage E.H., Folkman J.; "Angiostatin: a novel angiogenesis inhibitor that mediates the suppression of metastases by a Lewis lung carcinoma.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      plasminogen. Species specificity in
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MEDLINE=82213905; PubMed=6919539; Trexler M., Vali Z., Patthy L.; "Structure of the omega-aminocarboxylic plasminogen. Arginine 70 and aspartic acbinding of ligand by kringle 4.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        "Groskopf W.R., Summaria L., Robbins K.C.;
"Studies on the active center of human plass
sequence of a peptide containing the active
J. Biol. Chem. 244:3590-3597(1969).
                                                                                                                                                                                                                                CHARACTERIZATION OF ANGIOSTATIN. MEDLINE=97238710; PubMed=9102221;
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Wang H., Prorok M., Bretthauer R.
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                                                                                                                                                                                     recombinant human angiostatin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  i T., Schaller J., Rickli E.E., Schmid K., Kamerling ig G.J., van Halbeek H., Vliegenthart J.F.;
N- and O-linked carbohydrate chains of human, boving
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             J. Biochem.
                                                                                                                                                                                                                                                                         79:315-328(1994).
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ol. Chem. 272:7408-7411(1997).
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R., Stevens R.D., Andon N.L.,
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Atkinson R.A., Williams R.J.P.;
"Solution structure of the kringle 4 domain from human plasminogen
IH nuclear magnetic resonance spectroscopy and distance geometry.";
Mol. Biol. 212:541-552(1990).
                                                                                                                                                                                                                                                                                "Recombinant gene expression and 1H NMR characteristics of kringle (2 + 3) supermodule: spectroscopic/functional indiof plasminogen kringle domains.",
Biochemistry 35:2357-2364(1996).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MEDLINE=96180681; PubMed=8611560; Mathews I.I., Vanderhoff-Hanaver P., Castellino F.J., Tulinsky A. "Crystaal structures of the recombinant kringle 1 domain of human plasminogen in complexes with the ligands epsilon-aminocaproic ac and trans-4-(aminomethyl)cyclohexane-1-carboxylic Acid."; Biochemistry 35:2567-2576(1996).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Stec B. Yamano A., Whitlow M., Teeter T...., Stec B. Yamano A., Whitlow M., Teeter T...., Structure of human plasminogen kringle 4 at 1.68 A possible structural role of disordered residues. A possible structural role of disordered residues.
                                                                                                                                                             VARIANTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MEDLINE=94237157; PubMed Rejante M.R., Llinas M.; "1H-NMR assignments and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               "Structure and ligand binding determinants 5 domain of human plasminogen."; Biochemistry 37:3258-3271(1998).
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MEDLINE=94237158; PubMed=8181476;
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Rickli E.E.;
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Biochemistry 30:10589-10594(1991).
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6194156; PubMed=8652577;
S., Hu C.-K., Marti D.,
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RESULT 5
PLMN_BOVIN
ID PLMN_BOVIN

STANDARD;

PRT;

812

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P06868; Q28162;
01-JAN-1988 (Rel
01-NOV-1997 (Rel
28-FEB-2003 (Rel
                                                                                                 entities
or send a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Eucobylation patterns.";

Eur. J. Biochem. 173:57-63 (1988).

-I- FUNCTION: PLASMIN DISSOLVES THE FIBRIN OF BLOOD CLOTS AND ACTS A PROTECLYTIC FACTOR IN A VARIETY OF OTHER PROCESSES INCLUDING EMBRYONIC DEVELOPMENT, TISSUE REMODELING, TUMOR INVASION, AND INFLAMMATION; IN OVULATION IT WEAKENS THE WALLS OF THE GRAFITAN FOLLICLE. IT ACTIVATES THE UROKINASE-TYPE PLASMINOGEN ACTIVATOR, COLLAGENASES AND SEVERAL COMPLEMENT ZYMOGENS, SUCH AS C1 AND C5. IT CLEANES FIERIN, FIBRONECTIN, THROMBOSPONDIN,
                                                                                                                                                        This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDLINE=88185329; PubMed=3356193;
Marti T., Schaller J., Rickli E.E., Schmid K., Kame
Gerwig G.J., van Halbeek H., Vliegenthart J.F.;
"The N- and O-linked carbohydrate chains of human,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Berglund L., Andersen M.D., Petersen "Cloning and characterization of the Int. Dairy J. 5:593-603(1995).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Eukaryota; Metazoa; Ch
Mammalia; Eutheria; Ce
Bovidae; Bovinae; Bos.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              human and bovine plasminogen.";
Biochemistry 23:4243-4250(1984).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDLINE=85023311; PubMed=6148961;
Malinowski D.P., Sadler J.E., Davie E.W.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Schaller J., Moser P.W., Dannegger-Muller G.A.K., Rosselet S.J.,
Kampfer U., Rickli E.E.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE OF 27-812, AND CARBOHYDR MEDLINE=85203906; PubMed=3846532;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Plasminogen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         plasminogen. Species specificity in relation to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CARBOHYDRATE-LINKAGE SITES.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE OF 706-812 FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TISSUE=Liver;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NCBI_TaxID=9913;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Bos taurus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                "Characterization
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 'Complete amino acid sequence of bovine plasminogen. Comparison with
                                                                                                                                                                                                                                                                                                                                                                                      PRODUCTS.

ENZYME REGULATION: CONVERTED INTO PLASMIN BY PLASMINOGEN

ACTIVATORS, BOTH PLASMINOGEN AND ITS ACTIVATOR BEING BOUND TO

PIRRIN. CANNOT BE ACTIVATED WITH STREPTOKINASE.

PTM: N-LINKED GLYCAN CONTAIN N-ACETYLLACTOSAMINE AND SIALIC ACID.

O-LINKED GLYCANS CONSIST OF GAL-GALHAC DISACCHARIDE WITH IS

MODIFIED WITH UP TO 2 SHALIC ACID RESIDUES (MICROHETEROGENEITY).

MISCELLANEOUS: PLASMIN IS INACTIVATED BY ALPHA-2-ANTIPLASMIN

IMMEDIATELY AFTER DISSOCIATION FROM THE CLOT.

SIMILARITY: BELONGS TO PETTIDASE FAMILY S1. PLASMINOGEN SUBFAMILY

SIMILARITY: BELONGS TO PETTIDASE FAMILY S1. PLASMINOGEN SUBFAMILY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ACTIVATOR, COLLAGENASES AND SEVERAL COMPLEMENT ZYMOGENS, SUCH
AS C1 AND C5. IT CLEAVES FIBRIN, FIBRONECTIN, THROMBOSPONDIN,
LAMININ AND VON WILLEBRAND FACTOR.
CATALYTIC ACTIVITY: Preferential cleavage: Lys-|-Xaa > Arg-|-Xaa;
higher selectivity than trypsin. Converts fibrin into soluble
                                                                                                                                                                                                                                                                                                                                                                  SIMILARITY: Contains 5 kringle domains.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      J. Biochem. 149:267-278(1985)
X79402; CAA55939.1;
K02935; AAA30714.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      plasminogen.";
                                                                                                    an
                                                                                                 requires a license agreement (S
an email to license@isb-sib.ch).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         06, Created)
35, Last sequence update)
41, Last annotation update)
rsor (EC 3.4.21.7).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                of a complementary deoxyribonucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Chordata; Craniata; Vertebrata; Euteleostomi; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AND CARBOHYDRATE-LINKAGE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Schmid K., Kamerling
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                T.E.;
bovine plasminogen cDNA.";
                                                                                                                                       (See
                                                                                                                                   http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SITES
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                                                                                                                                                                                                                                                                                                                                                                                                           SUBFAMILY
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PLMN PIG P06867; 01-JAN-1988 01-FEB-1991 28-FEB-2003 Plasminogen

STANDARD;

790

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(Rel. 06, Created)
(Rel. 17, Last sequence update)
(Rel. 41, Last annotation updat
(EC 3.4.21.7).

PLG.

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RESULT 6
PLMN PIG
ID PLMN
AC PLON
DT 01-J
DT 01-F
DT 28-F
DT 28-F
DE Plas
GN PLG:
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R InterPro; IPR001314; Chymotrypsin.

R InterPro; IPR0013014; PAN.

R InterPro; IPR003014; PAN.

R InterPro; IPR003014; PAN.

R InterPro; IPR0030569; Pan app.

R InterPro; IPR001254; Ser_protease_Try.

Pfam; PF00051; kringle; 5.

Pfam; PF00051; kringle; 5.

Pfam; PF00051; kringle; 5.

R Pfam; PF00018; KRINGLE.

PRINTS; PR00018; KRINGLE.

PRINTS; PR00019; KRINGLE.

R PRINTS; PR000395; Kringle; 5.

R PRINTS; PR00130; KRINGLE.

PR PRINTS; PR00130; KRINGLE 1.

PR PRODOM; PD000395; Kringle; 5.

R PART; SM00130; KR; 5.

R SMART; SM00130; KR; 5.

PROSITE; PS00020; TryP_SPC; 1.

PROSITE; PS00021; KRINGLE 2; 5.

PROSITE; PS00013; TRYPSIN_DOM; 1.

PROSITE; PS00134; TRYPSIN_BRR; 1.

PROSITE; PS00134; TRYPSIN_BRR; 1.

PROSITE; PS00134; TRYPSIN_BRR; 1.

PROSITE; PS00134; TRYPSIN_BRR; 1.

PROSITE; PS00135; TRYPSIN_BRR; 1.

PROSITE; PS00134; TRYPSIN SRR; 1.

PROSITE; PS00135; TRYPSIN_BRR; 1.

PROSITE; PS00134; TRYPSIN SRR; 1.

PROSITE; PS00134; TRYPSIN SRR; 1.
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Best Local S
Matches 68
                                                                                                                                                                                                                                                     CONFLICT
CONFLICT
SEQUENCE
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ACT_SITE
ACT_SITE
CONFLICT
CONFLICT
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Tissue remc
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                                                                                                                                                                                                                                                                                                                                                                                                                                   DOMAIN
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                                                                                                                      437
                                                                                                                                            61
                                                                                                                                                                              68;
                                                                                                                                                                                                                      Similarity
                                                                                                                                    DSGKQPWCYTTDPCVRWEYCNLTQCSET 88
                                                                                                                                                                 QTPVPQDCYHGNGQSYRGTSSTTITGRKCQSWSSMTPHRHLKTPENYPNAGLTMNYCRNP
                                                                                                                        DADKSPWCYTTDPRVRWEFCNLKKCSET 464
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667
762
335
516
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744
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762
335
516
544
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                                                                                                                                                                                                                      76.6%;
77.3%;
                                                                                                                                                                                                                                                                /FTId=CAR 000014.
/FTId=CAR 000015.
/FTId=CAR 000015.
/FTId=CAR 000015.
CHARGE RELAY SYSTEM.
CHARGE RELAY SYSTEM.
CHARGE RELAY SYSTEM.
N -> D (IN REF. 2).
Q -> H (IN REF. 2).
P -> R (IN REF. 2).
T -> R (IN REF. 2).
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                                                                                                                                                                                                                                                                                                                                                                                                                                           PLASMIN HEAV
PLASMIN LIGH
PLASMIN LIGH
KRINGLE 1.
                                                                                                                                                                                                                                                                                                                                                                                                   KRINGLE 2.
KRINGLE 3.
KRINGLE 4.
KRINGLE 5.
                                                                                                                                                                                                                      Score 413;
Pred. No. 3
                                                                                                                                                                                                                                                                                                                                                                                      SERINE
                                                                                                                                                                                                                                                         38A6AA691E220946
                                                                                                                                                                                                             ed. No. 3.3e-35;
Mismatches 11
                                                                                                                                                                                                                                                                 E RELAY SYSTEM.
E RELAY SYSTEM.
E RELAY SYSTEM.
D (IN REF. 2).
H (IN REF. 2).
L (IN REF. 2).
R (IN REF. 3).
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LIGHT
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                                                                                                                                                                                                                                                         CRC64;
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InterPro; IPRO01314; Chymotrypsin.
InterPro; IPRO01314; Chymotrypsin.
InterPro; IPRO03014; PAN.
InterPro; IPRO03014; PAN.
InterPro; IPRO030169; Pan app.
InterPro; IPRO0369; Pan app.
InterPro; IPRO0369; Pan app.
InterPro; IPRO01254; Ser protease_Try.
Pfam; PF00051; kringle; 5.
Pfam; PF00051; kringle; 5.
Pfam; PF00084; PAN; 1.
Pfam; PF00089; trypsin; 1.
PFINTS; PR010722; CHYMOTRYPSIN.
PRINTS; PR010018; KRINGLE.
PRINTS; PR01055; PROTHROMBIN.
PRINTS; PR01055; PROTHROMBIN.
PRINTS; PR0100395; Kringle; 5.
SMART; SM000130; KR; 5.
SMART; SM00130; KR; 5.
SMART; SM00130; Tryp_SPC; 1.
PROSITE; PS00021; TRYPSIN_DOM; 1.
PROSITE; PS00021; TRYPSIN_DOM; 1.
PROSITE; PS00021; TRYPSIN_DOM; 1.
PROSITE; PS00021; TRYPSIN_DIS; FALSE_NEG.
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Mammalia; Eutheri
NCBI_TaxID=9823;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 plasminogen. Species specificity in relation to sialylation and fucosylation patterns.";
Biochem. 173:57-63(1988).

EUR. J. Biochem. 173:57-63(1988).

-!- FUNCTION: PLASMIN DISSOLVES THE FIBRIN OF BLOOD CLOTS AND ACTS A PROTEOLYTIC FACTOR IN A VARIETY OF OTHER PROCESSES INCLUDING EMBRYONIC DEVELOPMENT, TISSUE REMODELING, TUMOR INVASION, AND INFLAMMATION; IN OVULATION IT MEAKENS THE WALLS OF THE GRAAFIAN FOLLICLE. IT ACTIVATES THE UROKINASE-TYPE PLASMINOGEN ACTIVATOR, COLLAGENASES AND SEVERAL COMPLEMENT ZYMOGENS, SUCH AS CI AND CS. IT CLEAVES FLERIN, FIBRONECTIN, THROMBOSPONDIN,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Marti T., Schaller J., Rickli B.B.; "Determination of the complete amino-acid miniplasminogen.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE OF 1-560.

Schaller J., Marti T., Roesselet S.J., Kaempfer U., Rickli E.E "Amino acid sequence of the heavy chain of porcine plasmin. Comof the carbohydrate attachment sites with the human and bovine species.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MEROPS; S01.233;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -
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Marti T., Schaller J., Rickli E.E., Schmid K., Kamerling J.P.,
Gerwig G.J., van Halbeek H., Vliegenthart J.F.;
"The N- and O-linked carbohydrate chains of human, bovine and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Bur. J. Biochem. 149:279-285(1985).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MISCELLANGOUS: PLASMIN IS INACTIVATED BY IMMEDIATELY AFTER DISSOCIATION FROM THE SIMILARITY: BELONGS TO PEPTIDASE FAMILY SIMILARITY: Contains 5 kringle domains.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRODUCTS.

ENZYME REGULATION: CONVERTED INTO PLASMIN BY PLASMINOGEN
ACTIVATORS, BOTH PLASMINOGEN AND ITS ACTIVATOR BEING BOUND TO
ACTIVATORS, BOTH PLASMINOGEN AND ITS ACTIVATOR BEING BOUND TO
FIBRIN. CANNOT BE ACTIVATED WITH STREPTOKINASE.
PTM: N-LINKED GLYCAN CONTAINS N-ACETYLLACTOSAMINE, SIALIC ACID AND
IS CORE "FUCOSYLATED. O-LINKED GLYCANS CONSIST OF GAL-GALNAC
DISACCHARIDE WITH IS MODIFIED WITH UP TO 2 SIALIC ACID RESIDUES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LAMININ AND VON WILLEBRAND FACTOR.

CATALYTIC ACTIVITY: Preferential cleavage: Lys-|-Xaa > Arg-|-Xaa;
higher selectivity than trypsin. Converts fibrin into soluble
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   S03733; PLPG;
; P00747; SHPC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (MICROHETEROGENEITY)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SHPG.
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r J., Rickli E.E.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Chordata; Craniata; Vertebrata; Euteleostomi; Cetartiodactyla; Suina; Suidae; Sus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              BY ALPHA-2-ANTIPLASMIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 sequence
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Best Local S
Matches 66
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Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,
Klausner R.D., Collins F.S., Wagner L., Shennen C.M., Schuler G.D.,
Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,
Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,
Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,
Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,
Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         P20918; QBCIS2; Q91WJ5;
01-FEB-1991 (Rel. 17, Created)
15-SEP-2003 (Rel. 42, Last sequence update)
15-SEP-2003 (Rel. 42, Last annotation update)
Plasminogen precursor (EC 3.4.21.7) [Contains:
                                                                                                                                                                                  PubMed=12477932;
                                                                                                                                                                                                                                                                     Submitted
                                                                                                                                                                                                                                                                                        Brathwaite M., Was
Nagaraja R.;
"Genomic sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                MEDLINE=91184812; PubMed=Degen S.J., Bell S.M., So
"Characterization of the
localization of the gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mus musculus (Mouse)
Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MOUSE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE
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                                                                                                                                                                                                                            SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                 STRAIN=129/Sv;
                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PLMN MOUSE
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                                                                                                                                                                                                                                                                                                                                                                                                               tion of the gene
8:49-61(1990).
                                                                                                                                                                                                                                                                                                                                                                         FROM N.A.
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                                                                                                                                                                                                                                                                     requence analysis in the mouse t-complex region.";
(FEB-2002) to the EMBL/GenBank/DDBJ databases.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PubMed=2081600;
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Rodentia;
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74.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                  Schaefer L.A., Elliott R.W.; he cDNA coding for mouse plasminogen ne to mouse chromosome 17.";
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PLASMIN LIGHT CHAIN B.
SERINE PROTEASE.
                                                                                                                                                                                                                                                                                                                              Qian Y.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ¥
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/FTId=CAR 000019.
O-LINKED (GALNAC. ..).
/FTId=CAR 000020.
W; F04EA06E74BCD58E CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    9,
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KRINGLE 2.
KRINGLE 3.
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KRINGLE 5.
CHARGE RELA
CHARGE RELA
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Pred. No. 4.4e-34;
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CHARGE RELAY SYSTEM
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Sciurognathi; Muridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mismatches
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                                                                                                                                                                                                                                                                                                                                Schlessinger
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Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W., Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A., Fahey J., Helton E., Ketteman M., Madan A., Rodrigues S., Sanchez A., Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G., Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C., Blakesley R.W., Grimwood J.W., Green E.D., Dickson M.C., Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M., Butterfield Y.S.N., Krzywinski M.I., Skalska U., Smailus D.E., Schnerch A., Schein J.E., Jones S.J.M., Marra M.A.; "Generation and initial analysis of more than 15,000 full-length human and mouse cDNA sequences."; On 1600 1600 1600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MEDLINE-95042728; PubMed-7525077; O'Reilly M.S., Holmgren L., Shing Y., Chen C., Rosenthal R. O'Reilly M.S., Eane W.S., Cao Y., Sage E.H., Folkman J.; Moses M., Lane W.S., Cao Y., Sage E.H., Folkman J.; Moses M., Lane W.S. and Lane W.S. inhibitor that mediates "Angiostatin: a novel angiogenesis inhibitor that mediates suppression of metastases by a Lewis lung carcinoma."; Cell 79:315-328(1994).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A PROTECUTION: PLASMIN DISSOLVES THE FIBRIN OF BLOOD CLOTS AND ACTS AS A PROTECUTIC FACTOR IN A VARIETY OF OTHER PROCESSES INCLUDING EMBRYONIC DEVELOPMENT, TISSUE REMODELING, TUMOR INVASION, AND INFLAMMATION; IN OVULATION IT WEAKENS THE WALLS OF THE GRAAFIAN FOLLICLE. IT ACTIVATES THE UROKINASE-TYPE PLASMINOGEN ACTIVATOR, COLLAGENASES AND SEVERAL COMPLEMENT ZYMOGENS; SUCH AS CI AND CS. IT CLEAVES FIBRIN, FIBRONECTIN, THROMBOSPONDIN, LAMINN AND VON WILLEBRAND FACTOR.

-!- FUNCTION: ANCIOSTATIN IS AN ANGIOGENESIS INHIBITOR THAT BLOCKS NEOVASCULARIZATION AND GROWTH OF EXPERIMENTAL PRIMARY AND METASTATIC TUMORS IN VIVO.

-!- CATALYTIC ACTIVITY: Preferential cleavage: Lys-|-Xaa > Arg-|-Xaa; higher selectivity than trypsin. Converts fibrin into soluble
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 "Localization of regulatory elements cytokine-stimulated plasminogen gene J. Biol. Chem. 277:38579-38588(2002)
                                                                                                                                    MGD;
                                                                                                                                                                                                                                                                                                         EMBL; J04766; AAA50168.1; ---
EMBL; AF481053; AAM22156.1; ---
EMBL; BC014773; AAM14773.1; ---
EMBL; AY134430; AAN15805.1; ---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          entities requires a license agreement (S or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/
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Parmer R.J., Miles L.A.;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PubMed=12149246;
                                                                                                                                                                                                                       PIR; A38514; PLMS.
HSSP; P00747; 1PMK.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRODUCES.

PRODUCES.

PRODUCES.

PARMINOGEN AND ITS ACTIVATOR BEING BOUND TO PIBRIN. CANNOT BE ACTIVATED WITH STREPTOKINASE.

MISCELLANEOUS: PLASMIN IS INACTIVATED BY ALPHA-2-ANTIPLASMIN IMBEDIATELY AFTER DISSOCIATION FROM THE CLOT.

MISCELLANEOUS: IN THE PRESENCE OF THE INHIBITOR, THE ACTIVATION INVOLVES ONLY CLEAVAGE AFTER ARG-581, RESULTING IN 2 CHAINS HELD TOGETHER BY 2 DISULFIDE BONDS. WITHOUT THE INHIBITOR, THE ACTIVATION INVOLVES ALSO REMOVAL OF THE ACTIVATION PEPTIDE.

SIMILARITY: BELONGS TO PEPTIDASE FAMILY S1. PLASMINOGEN SUBFAMILY.

SIMILARITY: Contains 5 kringle domains.
OPS; S01.233; -.
, MGI:97620; Plg.
GO:0016506; F:apoptosis activator
GO:0006915; P:apoptosis; IDA.
erPro; IPR001314; Chymotrypsin.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gutierrez A., Fowler B.J., Bugge T.H., Degen J.L.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TISSUE=Liver;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          mediating constitutive and
expression.";
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Query Match
Best Local S
Matches 62
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SMART; SM00130; KR; S.
SMART; SM00473; PAN AP; 1.
SMART; SM00020; Tryp_SPc; 1.
PROSITE; PS00021; KRINGLE 1; 5.
PROSITE; PS50070; KRINGLE 2; 5.
PROSITE; PS50070; KRINGLE 2; 5.
PROSITE; PS500134; TRYPSIN_HIS; 1.
PROSITE; PS00134; TRYPSIN_HIS; 1.
PROSITE; PS00135; TRYPSIN_SER; 1.
PROSITE; PS00135; TRYPSIN_SER; 1.
Hydrolase; Serine protease; Plasma; Glycoprotein; Fibrinolysis;
Hydrolase; Serine protease; Repeat;
                                                   DISULFID
DISULFID
CONFLICT
CONFLICT
CONFLICT
SEQUENCE
                                                                                                                                   DISULPID
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ACT_SITE
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CHAIN
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PRINTS; PR00722; CHYMOTRYPSIN.
PRINTS; PR00118; KRINGLE.
PRINTS; PR01505; PROTHROMBIN.
PRODOM; PD000395; Kringle; 5.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Pfam; PF00051; kringle; Pfam; PF00024; PAN; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DOMAIN
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InterPro;
nl Similarity
62; Conserv
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0051; kringle; 5.
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IPR003609; Pan_app.
IPR003966; Prothrombin.
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               72.0%;
70.5%;
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CHARGE RELAY SY
CHARGE RELAY SY
BY SIMILARITY
BY SIMILAR
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KRINGLE 3.
KRINGLE 4.
KRINGLE 5.
             Score 388;
Pred. No. 1
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PLASMIN SHORT FORM OF CHAIN
ANGIOSTATIN.
PLASMIN LIGHT CHAIN B.
EKRINGLE 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PLASMINOGEN.
PLASMIN HEAVY CHAIN
                                                      ! -> H (IN REF. 1).
! -> D (IN REF. 1).
! -> L (IN REF. 1).
24173260E6A2FFD2 (
    Mismatches
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RELAY SYSTEM
RELAY SYSTEM
RELAY SYSTEM
               DB 1;
.3e-32;
                                                                                                                                                                SIMILARITY).
SIMILARITY).
                                                         CRC64;
                          Length 812;
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78)
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Y SIMILARITY).
Y SIMILARITY).
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RESULT 8
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Submitted (FEB-1997) to the EMBL/GenBank/DDBJ databases.
Submitted (FEB-1997) to the EMBL/GenBank/DDBJ databases.
-i- FUNCTION: PLASMIN DISSOLVES THE FIBRIN OF BLOOD CLOTS AND ACTS A PROTEDLYTIC FACTOR IN A VARIETY OF OTHER PROCESSES INCLUDING EMBRYONIC DEVELOPMENT, TISSUE REMODELING, TUMOR INVASION, AND INFLAMMATION; IN OVULATION IT WEAKENS THE WALLS OF THE GRAAFIAN FOLLICLE. IT ACTIVATES THE UROKINASE-TYPE PLASMINOGEN ACTIVATOR, COLLAGENASES AND SEVERAL COMPLEMENT ZYMOGENS, SUCH AS CI AND CS. IT CLEAVES FIBRIN, FIBRONECTIN, THROMBOSPONDIN, AS CI AND CS. IT CLEAVES FIBRIN, FIBRONECTIN, THROMBOSPONDIN,
                          InterPro;
InterPro;
InterPro;
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Q29485;
Q1-NOV-1997
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J. Biol.
                                                                                         InterPro;
InterPro;
                                                                                                                                                   EMBL; U33171; AAC48717.1;
PIR; 146260; 146260.
                                                                                                                                                                                                       or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                   entities requires a license agreement
                                                                                                                                                                                                                                                                                                      This
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDLINE=96025778; PubMed=7592597;
Lawn R.M., Boonmark N.W., Schwartz K., Lindahl G.E.,
Byrne C.D., Fong K.J., Meer K., Patthy L.;
"The recurring evolution of lipoprotein(a). Insights
                                                                                                                                        PIR; 146260; 146260.
HSSP; P00747; 1PMK.
                                                                                                                                                                                                                                        modified
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              REVISIONS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Eukaryota; Metazoa;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Erinaceus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   01-NOV-1997
28-FEB-2003
                                                                                                                          MEROPS;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Plasminogen
                                                                         InterPro;
                                                                                                                                                                                                                                                                                                                        PRODUCTS.

ENZIME REGULATION: CONVERTED INTO PLASMIN BY PLASMINOGEN
ACTIVATORS, BOTH PLASMINOGEN AND ITS ACTIVATOR BEING BOUND TO
FIBRUN. CANNOT BE ACTIVATED WITH STREPTOKINASE.

MISCELLANEOUS: PLASMIN IS INACTIVATED BY ALPHA-2-ANTIPLASMIN
IMMEDIATELY AFTER DISSOCIATION FROM THE CLOT.

SIMILARITY: BELONGS TO PEPTIDASE FAMILY S1. PLASMINOGEN SUBFAMILY.
SIMILARITY: Contains 5 kringle domains.
                                                                                                                                                                                                                                                               s SWISS-PROT entry is copyright. It is produced through a collaboratic ween the Swiss Institute of Bioinformatics and the EMBL outstation European Bioinformatics Institute. There are no restrictions on it
                                                                                                                                                                                                                                                                                                                                                                                                                                                           LAMININ AND VON WILLEBRAND FACTOR.

CATALYTIC ACTIVITY: Preferential cleavage: Lys-|-Xaa > Arg-|-Xaa;
higher selectivity than trypsin. Converts fibrin into soluble
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                430
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                                                                                                                       S01.
         ; IPR001314; Chymotrypsin.
; IPR000001; Kringle.
; IPR003014; PAN
; IPR003609; Pan app.
; IPR003966; Prothrombin.
; IPR001254; Ser protease_Try.
F00051; kringle; 5.
                                                                                                                                                                                                                                   non-profit institutions as long as and this statement is not removed. I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        apolipoprotein(a).";
Chem. 270:24004-24009(1995).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DGDKGPWCYTTDPSVRWEYCNLKRCSET 457
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(Rel.
(Rel.
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35, Last sequence update)
41, Last annotation updat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Insectivora; Erinaceidae; Erinaceinae; Erinaceus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (Western European hedgehog).
Chordata; Craniata; Vertebrata; Euteleostomi;
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                                                                                                                                                                                                                    noved. Usage by and for commercial
(See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            88
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                                                                                                                                                                                                                                                  There are no rest
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        from cloning
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RESULT 9
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R PRINTS; PRO1505; PROTHROMBIN.
JR PRODOM; PDRO0395; Kringle; 5.
R SMART; SM00130; KR; 5.
JR SMART; SM00130; KR; 5.
JR SMART; SM00020; TRYP_SPC; 1.
DR PROSITE; PS00021; KRINGLE_1; 5.
DR PROSITE; PS50010; KRINGLE_2; 5.
DR PROSITE; PS50010; TRYPSIN_DOM; 1.
DR PROSITE; PS50013; TRYPSIN_HIS; 1.
DR PROSITE; PS00134; TRYPSIN_HIS; 1.
DR PROSITE; PS00135; TRYPSIN_SER; 1.
KW Hydrolase; Serine protease; Plasma; Glycoprotein; Fibrinolysis; KW Hydrolase; Serine protease; Plasma; Glycoprotein; Repeat;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
                                                                                                                                                                                                                                                                     -PLMN RAT
Q01177;
Q1-APR-1993
01-APR-1993
Kanalas J.J., Makker S.P.;

"Identification of the rat Heymann nephritis autoantigen (GP330) as receptor site for plasminogen.";

J. Biol. Chem. 266:10825-10829(1991).

-i- FUNCTION: PLASMIN DISSOLVES THE FIBRIN OF BLOOD CLOTS AND ACTS A PROTEDLYTIC FACTOR IN A VARIETY OF OTHER PROCESSES INCLUDING EMERYONIC DEVELOPMENT, TISSUE REMODELING, TUMOR INVASION, AND INFLAMMATION; IN OVULATION IT WEAKENS THE WALLS OF THE GRAAFIAN FOLLICLE. IT ACTIVATES THE UROKINASE-TYPE PLASMINOGEN ACTIVATOR, COLLAGENASSES AND SEVERAL COMPLEMENT ZYMOGENS, SUCH AS C1 AND C5. IT CLEAVES FIBRIN, FIBRONECTIN, THROMBOSPONDIN, AS C1 AND C5. IT CLEAVES FIBRIN, FIBRONECTIN, THROMBOSPONDIN,
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DOMAIN
ACT_SITE
ACT_SITE
ACT_SITE
CARBOHYD
SEQUENCE
                                                                                                                                                                                               Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
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DOMAIN
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DOMAIN
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Signal
SIGNAL
                                                                                                                                    MEDLINE=91250378; PubMed=1645711;
                                                                                                                                                  TISSUE=Liver;
                                                                                                                                                           SEQUENCE FROM N.A.
                                                                                                                                                                                 NCBI_TaxID=10116;
                                                                                                                                                                                                                       Rattus norvegicus
                                                                                                                                                                                                                                               Plasminogen
                                                                                                                                                                                                                                                             28-FEB-2003
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Local
                                                                                                                                                                                                                                                                                                                                                                      432 DGDKGPWCYTTDPSVRWEFCNLKKCSGTE
                                                                                                                                                                                                                                                                                                                                                                                                                    372 QTPVVQECYQGNGQTYRGTSSTTITGKKCQPWTSMRPHRHSKTPENYPDADLTMNYCRNP
                                                                                                                                                                                                                                                                                                                                                                                            61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61;
                                                                                                                                                                                                                                                                                                                                                                                                                                            1 KSPVVQDCYHGDGRSYRGISSTTVTGRTCQSWSSMIPHWHQRTPENYPNAGLTENYCRNP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Similarity
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(Rel. 25, Last sequence update)
(Rel. 41, Last annotation update)
(EC 3.4.21.7) (Fragment).
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262
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760
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68.5%;
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KRINGLE 3.

KRINGLE 4.

KRINGLE 5.

CHARGE RELAY SYSTEM.

CHARGE RELAY SYSTEM.

CHARGE RELAY SYSTEM.

CHARGE RELAY SYSTEM.

N-LINKED (GLCNAC. . .) (POT NO. 1 . .) (POT NO. 2 . . .)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 378; DB 1;
Pred. No. 1.4e-31;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PLASMIN HEAVY CHAIN
PLASMIN LIGHT CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              KRINGLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         BY SIMILARITY.
                                                                                                                                                                                               Craniata; Vertebrata; Euteleostomi;
Sciurognathi; Muridae; Murinae; Rattus.
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(BY SIMILARITY)
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RESULT 10
HGF HUMAN
ID HGF H47
AC P147
DT 01-41
DT 15-SI
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GN HGF ON
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Matches 60
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          HGF HUMAN STANDARD; PRT; 728 AA. P14210; Q9BYL9; Q9UDU6; 01-JAN-1990 (Rel. 13, Created) 01-AUG-1991 (Rel. 19, Last sequence update) 15-SEP-2003 (Rel. 42, Last annotation update Hepatcoyte growth factor precursor (Scatter (Hepatopoeitin A).
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PROSITE; PS50070; KRINGLE_2; PARTIAL.

PROSITE; PS50240; TRYPSIN_DOM; PARTIAL.

PROSITE; PS00134; TRYPSIN_HIS; PARTIAL.

PROSITE; PS00135; TRYPSIN_SER; PARTIAL.

Hydrolase; Serine protease; Plasma; Glycoprotein; Fibrinolysis;

Tissue remodeling; Blood coagulation; Kringle; Repeat.
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PRINTS; PRO1505; PROTHROMBIN.
PRINTS; PRO1505; KRINGLE.
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ACTIVATORS, BOTH PLASMINOGEN AND ITS ACTIVATOR BEING BOUND TO
ACTIVATORS, BOTH PLASMINOGEN AND ITS ACTIVATOR BEING BOUND TO
FIBRIN. CANNOT BE ACTIVATED WITH STREPTOKINASE.
MISCELLANGOUS: PLASMIN IS INACTIVATED BY ALPHA-2-ANTIPLASMIN
IMMEDIATELY AFTER DISSOCIATION FROM THE CLOT.
SIMILARITY: BELONGS TO PEPTIDASE FAMILY S1. PLASMINOGEN SUBFAMILY.
SIMILARITY: Contains 5 kringle domains.
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Pro; IPR003966; Prothrombin.
Pro; IPR01254; Ser protease_Try.
PF00051; kringle; 2.
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SEQUENCE FROM N.A.
MEDLINE=91340155; Pubv
Seki T., Hagiya M., Sh
"Organization of the h
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Biochem. Biophys. Res. Commun. 172:321-327(1990)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MEDLINE=91025062; PubMed=2145836;
Seki T., Ihara I., Sugimura A., Shimonishi M., Nishizawa
Asami O., Hagiya M., Nakamura T., Shimizu S.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Miyazawa K., Tsubouchi H., Naka D., Takahashi K.,
Arakaki N., Nakayama H., Hirono S., Sakiyama O.,
Gohda E., Daikuhara Y., Kitamura N.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gene 102:213-219(1991).
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Nakamura T., Nishizawa T., Hagiya M
Sugimura A., Tashiro K., Shimizu S.
"Molecular cloning and expression o
Nature 342:440-443(1989).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDLINE=89392017;
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                                                                                                                                                                                               Miyazawa K., Kitamura A., Kitamura N.; "Structural organization and the transcription initiation site of the human hepatacyte growth factor gene."; Biochemistry 30:9170-9176(1991).
                                                                                                                                                                                                                                                                                                                                               "Evidence for the identity of factor.";
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                     CARBOHYDRATE-LINKAGE SITE THR-476.
MEDLINE=93129192; PubMed=1482348;
Shimizu N., Hara H., Sogabe T., Sal
Nakamura T., Shimizu S.;
                                                                                   Biochem.
                                                                                                 MEDLINE=91207365; PubMed=1826837; Yoshiyama Y., Arakakai N., Naka D Nakayama H., Gohda E., Kitamura N Hishida T., Daikuhara Y.;
                                                                                                                                                                        SIGNAL SEQUENCE CLEAVAGE SITE
                                                                                                                                                                                                                                                                                 Submitted (JUN-1998)
                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A. Courtney L., Elliot
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Rieder H., Fonatsch C., Tsubouchi H
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MEDLINE=91334393; PubMed=1831266;
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"Isolation and expression of cDNA for different
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TISSUE=Leukocyte;
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            "Hepatocyte growth factor is linked
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Commun. 175:660-667(1991)
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MEDLINE=993658; PubMed=9817840;
Ultsch M., Lokker N.A., Godowski P.J., de Vos A.M.;
"Crystal structure of the NK1 fragment of human hepatocyte growth factor at 2.0-A resolution.";
Structure 6:1383-1393(1998).
-i- FUNCTION: HGF IS A POTENT MITOGEN FOR MATURE PARENCHYMAL
HEPATOCYTE CELLS, SEEMS TO BE AN HEPATOTROPHIC FACTOR, AND ACTS AS GROWTH FACTOR FOR A BROAD SPECTRUM OF TISSUES AND CELL TYPES.

IT HAS NO DETECTABLE PROTEASE ACTIVITY.
-I- SUBGUNIT: DIMER OF AN ALPHA CHAIN AND A BETA CHAIN LINKED BY A DISULFIDE BOND.
-I- SIMILARITY: BELONGS TO PEPTIDASE FAMILY S1. PLASMINOGEN SUBFAMILY-I- SIMILARITY: Contains 4 kringle domains.
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MEDLINE=98154323; PubMed=9493272;
MEDLINE=98154323; PubMed=9493272;
Zhou H., Mazzulla M.J., Kaufman J.D., Stahl S.J., Wingfield P.T.,
Rubin J.S., Bottaro D.P., Byrd R.A.;
"The solution structure of the N-terminal domain of hepatocyte growth factor reveals a potential heparin-binding site.";
Structure 6:109-116(1998).
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Lokker N.A., Mark M.R., Luis E.A., Bennett G.L., Robbins lokker J.B., Godowski P.J.;
"Structure-function analysis of hepatocyte growth factor: identification of variants that lack mitogenic activity y
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                use by non-profit institutions as long modified and this statement is not removed. entitles requires a license agreement (See or send an email to license@isb-sib.ch).
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J. 11:2503-2510(1992).
                AAG53460.1; JOINED.
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EMBL; M75982; JH0579.
PIR; JH0579; JH0579.
PDB; 24GF; 24-JUN-98.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        39;
                                                                                                                                                                                                                                                                                                                                                                                                                                                7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          factor; Kringle;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3D-structure;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           S01.976;
                                                                                                                                                                                                                                                                                                                           WCYTLDPHTRWEYCAIKTCAD
                                                                                                                                                                                                                                                                                                                                                                 WCYTTDPCVRWEYCNLTQCSE 87
                                                                                                                                                                                                                                                                                                                                                                                                                                  DCYHGDGRSYRGISSTTVTGRTCQSWSSMIPHWHQRTPENYPNAGLTENYCRNPDSGKQP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                         STANDARD;
                                                                                                                   16, Created)
16, Last sequence update)
41, Last annotation update)
factor precursor (Scatter factor)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        32
127
206
288
288
383
383
728
96
206
                       Chordata;
Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         47.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   e; Glycoprotein; Serine protease homolog; Repeat; Polymorphism; Pyrrolidone carboxylic acid.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             JOINED.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 255; DB 1;
Pred. No. 6.2e-19;
L2; Mismatches 30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PAP.
KRINGLE
KRINGLE
KRINGLE
KRINGLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      HEPATOCYTE GROWTH FACTOR BETA CHAIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SERINE PROTEASE-LIKE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PYRROLIDONE CARBOXYLIC
                  Craniata; Vertebrata; I
Sciurognathi; Muridae;
                                                                                                                                                                                                                         PRT;
                                                                                                                                                                                                                         728 AA
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                       Euteleostomi;
; Murinae; Rat
                                                                                                                         (SF)
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AND PARTIAL SEQUENCE

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ProDom; EUVOCOCA,
SMART; SM00130; KR; 4.
SMART; SM00473; PAN AP; 1.
SMART; SM00020; Tryp_SPc; 1.
PROSITE; PS00021; KRINGLE 1; 4.
PROSITE; PS50070; KRINGLE 2; 4.
PROSITE; PS50240; TRYPSIN_DOM; 1.
Growth factor; Kringle; Glycoprotein; Se
                                                                                                                                                                                                                                                                                          InterPro; IPR001314; Chymotrypsin.
InterPro; IPR00101; Kringle.
InterPro; IPR003014; PAN.
InterPro; IPR003014; PAN.
InterPro; IPR003609; Pan.app.
InterPro; IPR001254; Ser_protease_Try.
Pfam; PP00025; kringle; 4.
Pfam; PP00025; kringle; 4.
Pfam; PP00029; trypsin; 1.
PRINTS; PR000722; CHYMOTRYPSIN.
PRINTS; PR00018; KRINGLE.
PRODOM; PD000395; Kringle; 4.
SMART; SM00130; KR; 4.
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SEQUENCE FROM N.A., AND FINAL STRAIN=Wistar; TISSUE=Liver;
STRAIN=Wistar; TISSUE=Liver;
MEDLINE=90222197; PubMed=2139229;
MEDLINE=00222197; PubMed=2139229;
MEDLINE=00222197; PubMed=71;
DOMAIN
DOMAIN
DOMAIN
DOMAIN
DOMAIN
DOMAIN
DISULFID
DISULFID
DISULFID
CARBOHYD
                                                                                                                                                         MOD_RES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EMBL; D90102; BAA14133.1; -.
EMBL; X54400; CAA38266.1; -.
PIR; A35644; A35644.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entitles requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      "Primary structure of rat hepatocyte growth factor and induction its mRNA during liver regeneration following hepatic injury.";
Eur. J. Biochem. 193:375-381(1990).
-I- FUNCTION: HGF IS A POTENT MITOGEN FOR MATURE PARENCHYMAL
HEPATOCYTE CELLS, SEEMS TO BE AN HEPATOTROPHIC FACTOR, AND AC AS GROWTH FACTOR FOR A BROAD SPECTRUM OF TISSUES AND CELL TYP IT HAS NO DETECTABLE PROTEASE ACTIVITY.
                                                                                                                                                                                           CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    This SWISS-PROT entry is copyright. It is produced through a collaboration
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     expression of the mRNA in rat
Proc. Natl. Acad. Sci. U.S.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Okajima A., Miyazawa K., Kitamura N.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A.
                                                                                                                                                                             CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MEROPS; S01.978;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MEDLINE=91031482; PubMed=2146117;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  "Deduced primary structure of rat hepatocyte growth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SIMILARITY: BELONGS TO PEPTIDASE FAMILY SIMILARITY: Contains 4 kringle domains.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SUBUNIT: DIMER OF AN ALPHA CHAIN AND A BETA CHAIN LINKED BY DISULFIDE BOND.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        P14210; 1BHT.
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496
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488
295
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                                                                                                                                                              32
495
728
33
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            PAP.
KRINGLE 1.
KRINGLE 2.
KRINGLE 3.
KRINGLE 4.
SERINE PROTEASE-LIKE.
BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
INTERCHAIN (BY SIMILARITY).
                                                                                                                                                              HEPATOCYTE GROWTH FACTOR ALL HEPATOCYTE GROWTH FACTOR BE PYRROLIDONE CARBOXYLIC ACID
                                                                                                                                                                                                          BY SIMILARITY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       tissues.";
87:3200-3204(1990)
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                                                                                                                                                  SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Seki T.,
                                                                                                                                                                                                                                      Serine protease homolog; Repeat;
 (GLCNAC. . .) (POTENTIAL).
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                                                                                                                                                                             FACTOR BETA CHAIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PLASMINOGEN
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   a collaboration
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SUBFAMILY.
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HESULT 12
HEF MOUSE
HOF MOUSE
TO MOUSE
TO MOUSE
AC Q08048; Q61662; Q64007;
DT 01-NOV-1995 (Rel. 32; Last sequence update)
DT 01-NOV-1995 (Rel. 32; Created)
DT 01-NOV-1995 (Rel. 32; Last sequence update)
DT 01-NOV-1995 (Rel. 32; Created)
DT 01-N
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Best Local S
Matches 39
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CARBOHYD
CARBOHYD
SEQUENCE
                                                                                                                                                                                                                                                                                       BIOCHIM. BIOPHYS. ACTA 1216:299-303(1993).

-!- FUNCTION: HOF IS A POTENT MITOGEN FOR MATURE PARENCHYMAL HEPATOCYTE CELLS, SEEMS TO BE AN HEPATOTROPHIC FACTOR, AN GROWTH FACTOR FOR A BROAD SPECTRUM OF TISSUES AND CELL TY HAS NO DETECTABLE PROTEASE ACTIVITY.

-!- SUBUNIT: DIMER OF AN ALPHA CHAIN AND A BETA CHAIN LINKED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TISSUE=Mammary fibroblast;
MEDLINE=94183257; PubMed=8135822;
MEDLINE=94183257; PubMed=8135822;
Sasaki M., Nishio M., Sasaki T., Enami J.;
Sasaki M., Nishio M., Sasaki T., Enami J.;
Tidentification of mouse mammary fibroblast-derived factor as hepatocyte growth factor.";
Biochem. Biophys. Res. Commun. 199:772-779(1994).
                                  This SWISS-PROT entry is copyright. It is produced
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Liu Y., Michalopoulos G.K., Zarnegar R.; "Molecular cloning and characterization of cDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               211
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ECMTCNGESYRGPMDHTESGKTCORWDQQTPHRHKFLPERYPDKGFDDNYCRNPDGKPRP
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728
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N-LINKED (GLCNAC...
N-LINKED (GLCNAC...
W; 3E0BF1F96ADCEDFF (
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Pred. No. 2e-18;
1; Mismatches
            Bioinformatics
                                                                                                                                                                                                                            Named isoforms=2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   88
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thi; Muridae;
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                                                                                                         S1. PLASMINOGEN SUBFAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      of the mouse Hgf/scatter
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   factor)
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                                                                                                                                                                                                                                                                                                 CHAIN LINKED BY
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; Murinae; Mus.
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                 EMBL
                      a collaboration
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RESULT 13
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Best Local
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Pfam; PF00084; PAN; 1.

Pfam; PF00089; trypsin; 1.

Pfam; PF00089; trypsin; 1.

PRINTS; PR00722; CHYMOTRYPSIN.

PRINTS; PR00018; KRINGLE.

PRODOM; PD000395; Kringle; 4.

SMART; SM00130; KR; 4.

SMART; SM00030; Tryp SPC; 1.

SMART; SM00020; Tryp SPC; 1.

PROSITE; PS00071; KRINGLE 2; 4.

PROSITE; PS0070; KRINGLE 2; 4.

PROSITE; PS50240; TRYPSIN DOM; 1.

Growth factor; Kringle; Glycoprotein; Sectional Alternative Processions
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEROPS; S01.982; -.
MGD; MGI:96079; Hgf.
InterPro; IPR001314; Chymotrypsin.
InterPro; IPR003014; Kringle.
InterPro; IPR003014; PAN.
InterPro; IPR003509; Pan_app.
InterPro; IPR003154; Ser_protease_T;
                                                                                                                                                                                CONFLICT
CONFLICT
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CARBOHYD
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Signal;
SIGNAL
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CARBOHYD
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EMBL; D10213; BAA01055.1; -.
EMBL; S71816; AAB31855.1; -.
EMBL; X72307; CAA51054.1; ALT_INIT.
EMBL; X72307; A60185.4.1; ALT_INIT.
PIR; JC2117; A60185.
                                                                                                                                                                       SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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                                                                                     211
                                            271
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                                                                                                                                                                                                                                                                                                                                                                                                                              ; Alternative
                                                                                                                                        Similarity
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    non-profit institutions as long
    and this statement is not removed.
                                                                                                       DCYHGDGRSYRGISSTTVTGRTCQSWSSMIPHWHQRTPENYPNAGLTENYCRNPDSGKQP
                                            WCYTLDPDTPWEYCAIKTCAHS 292
                                                              WCYTTDPCVRWEYCNLTQCSET
                                                                                     ECMTCNGESYRGPMDHTESGKTCQRWDQQTPHRHKFLPERYPDKGFDDNYCRNPDGKPRP
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403
569
569
                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1BHT.
                                                                                                                                                                       Ą,
                                                                                                                                                                   344 N
479 V
564 R
82944 MW;
                                                                                                                                                                                                                         495
728
33
                                                                                                                                                                                                                                                                                                                                                                                                                              splicing
                                                                                                                                       46.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           _protease_Try.
                                                                                                                             11;
                                                                                                                                                                             N-LINKED (GLCNAC...)
N-LINKED (GLCNAC...)
N-LINKED (GLCNAC...)
N-LINKED (GLCNAC...)
Nissing (in isoform Sho)
/FTId=VSP 005408.
N -> K (IN REF. 2).
V -> L (IN REF. 2).
R -> H (IN REF. 3).
                                                                                                                                                                                                                                                                                     PAP.
KRINGLE 1.
KRINGLE 2.
KRINGLE 3.
KRINGLE 4.
KRINGLE 4.
SERINE PROTEASE-LIKE.
BY SIMILARITY.
BY SIMILARITY.
                                                                                                                                       Score
Pred.
                                                                                                                                                                                                                                                                 INTERCHAIN (BY SIMILARITY)
N-LINKED (GLCNAC. . .) (PC
                                                                                                                                                                                                                                                                                                                                                                                                                      ВХ
                                                                                                                                                                                                                                                                                                                                                                                              HEPATOCYTE GROWTH FACTOR ALPHA CHAIN. HEPATOCYTE GROWTH FACTOR BETA CHAIN.
                                                                                                                                                                                                                                                                                                                                                                                       PYRROLIDONE
                                                                                                                                                                                                                                                                                                                                                                           (BY SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                              Pyrrol
                                                                                                                                                                       A0381FC497534328 CRC64;
                                                                88
                                                                                                                               Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                      SIMILARITY.
                                                                                                                                                  249;
                                                                                                                                        No.

    Serine protease homolog; Repeat;
    idone carboxylic acid.

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                                                                                                                                       DB 1;
.6e-18;
                                                                                                                                                                                                                                                                                                                                                                                      CARBOXYLIC ACID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Usage
                                                                                                                                                  Length 728;
                                                                                                                                                                                                                          Short)
                                                                                                                              Indels
                                                                                                                                                                                                                                             (POTENTIAL). (POTENTIAL). (POTENTIAL).
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tent is in no
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Pfam; PF00051; kringle; 4.

Pfam; PF00084; PAN; 1.

Pfam; PF00089; PAN; 1.

Pfam; PF00089; PATYPSIN.

PRINTS; PR00018; KRINGLE.

PRINTS; PR01018; KRINGLE.

PRINTS; PR01055; KRINGLE;

PRINTS; PR010595; KRINGLE; 4.

SMART; SM00130; KR; 4.

SMART; SM00473; PAN AP; 1.

SMART; SM00020; TYP_SPC; 1.

PROSITE; PS00021; KRINGLE 1; 4.

PROSITE; PS00021; KRINGLE 2; 4.
                                                                                                                                                                                                                                                 InterPro; InterPro; InterPro; IPR000001; Kringle.
InterPro; IPR003014; PAN.
InterPro; IPR003009; Pan app.
InterPro; IPR003966; Prothrombin.
InterPro; IPR001254; Ser protease_Try.
InterPro; IPR001254; Kringle; 4.
Kringle;
SIGNAL
CHAIN
DOMAIN
DOMAIN
DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                This SWISS-PROT entry is copyright. It is produced through a copyright the EMBL the Ewiss Institute of Bioinformatics and the EMBL the European Bioinformatics Institute. There are no restrict use by non-profit institutions as long as its content is modified and this statement is not removed. Usage by and fo entities requires a license agreement (See http://www.isb-sib.or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Friezner Degen S.J., Stuart L.A., Han S., Jamison C.S.;
"Characterization of the mouse cDNA and gene coding for a h
growth factor-like protein: expression during development."
Biochemistry 30:9781-9791(1991)
-1- FUNCTION: PROBABLY HAS NO PROTEOLYTIC ACTIVITY, SINCE C
CHARACTERISTIC OF SERINE PROTEASES CATALYTIC SITES ARE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A.
STRAIN-BALB/c; TISSUE=Liver;
MEDLINE=92002017; PubMed=1832957;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     stimulatory protein) (MSP).
MST1 OR HGFL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                HGFL_MOUSE STANDARD; PRT; 716 AA. P26928; 01-AUG-1992 (Rel. 23, Created) 01-AUG-1992 (Rel. 23, Last sequence update) 15-SEP-2003 (Rel. 42, Last annotation update) Hepatocyte growth factor-like protein precursor
                                                                                                                                                                                                                                                                                                                                                                                         EMBL; M74180; AAA50166.1; -.
EMBL; M74181; AAA50167.1; -.
PIR; A40332; A40332.
HSSP; P00747; 1KRN.
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                                                                                                                                                                                                                                                                                                                                                                MGD; MGI:96080; M8tl.
                                                                                                                                                                                                                                                                                                                                                 nterPro; IPR001314; Chymotrypsin.
                                                                                                                                                                                                                                                                                                                                                                               EROPS;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SIMILARITY: BELONGS TO PEPTIDAS SIMILARITY: Contains 4 kringle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STABLE AFTERWARDS.
PTM: MAY BE CLEAVED AFTER AA 488,
HELD TOGETHER BY DISULFIDE BONDS,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         JUST BEFORE BIRTH THE LEVEL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ADRENAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TISSUE SPECIFICITY: LIVER. LOWER LEVELS IN LUNG, PLACENTA AND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 POLYPEPTIDES
                                                                                                                                                                                                                                                                                                                                                                             S01.975;
19
19
110
191
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 18
716
109
186
268
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PAP.
KRINGLE
KRINGLE
                                       protease homolog; Repeat; Signal.
POTENTIAL.
HEPATOCYTE GROWTH FACTOR-LIKE PROT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Craniata; Vertebrata; Euteleostomi; Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     domains.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FAMILY S1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TO YIELD A OR CLEAVED
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                                           FACTOR-LIKE PROTEIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PLASMINOGEN
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               OINI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TWO-CHAIN MOLECULE INTO TWO SEPARATE
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RESULT PLAN SHOW OF SHORE STATE OF SHORE SHOW OF SHO
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MEDLINE=93149995; PubMed=1492092;

A Schaller J. Straub C., Kampfer U., Rickli E.E.;

A Schaller J., Straub C., Kampfer U., Rickli E.E.;

T "Complete amino acid sequence of ovine miniplasminogen.";

T "Complete amino acid sequence of ovine miniplasminogen.";

Protein Seq. Data Anal. 5:21-25(1992).

C -!- FUNCTION: PLASMIN DISSOLVES THE FIBRIN OF BLOOD CLOTS AND ACTS AS

C -!- FUNCTION: PLASMIN DISSOLVES THE FIBRIN OF BLOOD CLOTS AND ACTS AS

C APROTEDLYTIC PACTOR, IN A VARIETY OF OTHER PROCESSES INCLUDING

C AMB INFLAMMATION; IN OVULATION IT WEAKENS THE WALLS OF THE

C GRAAFIAN FOLLICLE. IT ACTIVATES THE UROKINASE-TYPE PLASMINOGEN

ACTIVATOR, COLLAGERASES AND SEVERAL COMPLEXENT ZYMOGENS, SUCH

AS C1 AND C5. IT CLEAVES FIBRIN, FIBRONECTIN, THROMBOSPONDIN,

C LAMININ AND VON WILLEBRAND FACTOR.

C LAMININ AND VON WILLEBRAND FACTOR.

C LAMININ AND VON WILLEBRAND FACTOR.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local S
Matches 43
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PLMN SHEEP
P81286;
P81286;
15-DEC-1998
15-DEC-1998
28-FEB-2003
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CARBOHYD
CARBOHYD
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CARBOHYD
CONFLICT
                                                                                                                                                                                                                                                                                                                                                                                                                                               Eukaryota; Metazoa; Chor
Mammalia; Eutheria; Ceta:
Bovidae; Caprinae; Ovis.
BORI TaxID=9940;
                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ovis aries (Sheep).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Plasminogen
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                435 SHGPWCYTLDPDILFDYCALQRCDDDQ 461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  43;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              4 VVQDCYHGDGRSYRGISSTTVTGRTCQSWSSMIPHWHQRTPENYPNAGLTENYCRNPDSG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               VPEGCYHGSGEQYRGSVSKTRKGVQCQHWSSETPHKPQFTPTSAPQAGLEANFCRNPDGD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     KQ-PWCYTTDPCVRWEYCNLTQCSETE 89
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (Rel. 37, Created)
(Rel. 37, Last sequence update)
(Rel. 41, Last annotation update)
(EC 3.4.21.7) (Fragment).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (Fragment).
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BY SIMILARITY.

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BY SIMILARITY.
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Pred. No. 1.
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KRINGLE
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); Mismatches
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(POTENTIAL)
(POTENTIAL)
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                                                                                                                                                                                                                                                                                                                                                                                     RESULT 15
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R Pfam; PF00089; trypsin; 1.

R Pfam; PF00089; trypsin; 1.

R PRINTS; PR00122; CHYMOTRYPSIN.

R PRINTS; PR001505; PROTHROMBIN.

R PRINTS; PR001505; PROTHROMBIN.

R PROMODOM; PD000395; Kringle; 1.

R SMART; SM00130; KR; 1.

R SMART; SM00020; Tryp SPc; 1.

R SMART; SM00020; Tryp SPc; 1.

R PROSITE; PS00121; KRINGLE_2; 1.

R PROSITE; PS00134; TRYPSIN_DOM; 1.

PROSITE; PS00134; TRYPSIN_SER; 1.

PROSITE; PS00135; TRYPSIN_SER; 1.

W Hydrolase; Serine protease; Plasma; Glycoprotein; Fibrinolysis;
W Hydrolase; Serine protease; Plasma; Glycoprotein; Fabrat;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Best Loc
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local
                                                                                                                                                              HGPL HUMAN STANDARD; PRT; 711 AA.
P26927; Q13350; Q14870;
01-NUG-1992 (Rel. 23, Created)
01-AUG-1992 (Rel. 23, Last sequence update)
28-PEB-2003 (Rel. 41, Last annotation update)
Hepatocyte growth factor-like protein precursor (Mastimulatory protein) (MSP) (Macrophage stimulating MST1 OR HGFL.
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                     SEQUENCE FROM N.A. TISSUE=Liver;
                                                                                                            Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                               HUMAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQÜENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           InterPro; IPR001314; Chymotrypsin.
InterPro; IPR000001; Kringle.
InterPro; IPR003966; Prothrombin.
InterPro; IPR001254; Ser_protease_
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     HSSP; P00747; 5HPG.
MEROPS; S01.233; -.
  MEDLINE=92002016; PubMed=1655021;
                                                                                                                                                         Homo sapiens (Human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRODUCTS

ENZYME REGULATION: CONVERTED INTO PLASMIN BY PLASMINOGEN
ACTIVATORS, BOTH PLASMINOGEN AND ITS ACTIVATOR BEING BOUND TO
FIBRIN. CANNOT BE ACTIVATED WITH STREPTOKINASE.

MISCELLANGOUS: PLASMIN IS INACTIVATED BY ALPHA-2-ANTIPLASMIN
IMMEDIATELY AFTER DISSOCIATION FROM THE CLOT.

SIMILARITY: BELONGS TO PEPTIDASE FAMILY S1. PLASMINOGEN SUBFAMILY.
SIMILARITY: Contains at least 2 kringle domains.
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odeling; Blood coa
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Primates;
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LIGHT CHAIN A.
KRINGLE 4.
KRINGLE 5.
SERINE PROTEASE.
CHARGE RELAY SYSTEM.
CHARGE RELAY SYSTEM.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 236; DB 1;
Pred. No. 2.6e-17;
                                                                                                            Craniata; Vo
Catarrhini;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8DF6EBA92D596EE0 CRC64;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                            97
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                                                                                                                                      Vertebrata; Euteleostomi;
                                                                                                                 Hominidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 343;
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Pfam; PF00089; trypsin; 1.

PRINTS; PR00722; CHYMOTRYPSIN.

PRINTS; PR00718; KRINGLE.

PRINTS; PR00138; KRINGLE.

PRODOM; PR000395; Kringle; 4.

SMART; SM00130; KR; 4.

SMART; SM00020; Tryp_SPc; 1.

SMART; SM00020; Tryp_SPc; 1.

PROSITE; PS000021; KRINGLE 1; 4.

PROSITE; PS00070; KRINGLE 2; 4.

PROSITE; PS50240; TRYPSIN_DOM; 1.

Kringle; Glycoprotein; Serine pro
                                                                                                                                                                                                                                                                                                                                                             Pfam; PF00051;
Pfam; PF00024;
Pfam; PF00089;
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Yoshimura T., Yuhki N., Wang M.H., Skeel A., Leonard E.J.;
Yoshimura T., Yuhki N., Wang M.H., Skeel A., Leonard E.J.;
Yoshimura T., Yuhki N., Wang M.H., Skeel A., Leonard E.J.;
Prolain Sequencing, and expression of human macrophage stimulating protein (MSP, MST1) confirms MSP as a member of the family of kringly protein and locates the MSP gene on chromosome 3.";
J. Biol. Chem. 268:15461-15468 (1993)
-I- FUNCTION: PROBABLY HAS NO PROTEOLYTIC ACTIVITY, SINCE CRUCIAL AA CTERISTIC OF SERINE PROTEASES CATALYTIC SITES ARE NOT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EMBL; M74178; AAA50165.1; -.
EMBL; U37055; AAC50471.1; -.
EMBL; L11924; AAA59872.1; -.
PIR; A40331; A47116.
HSSP; P00747; 2PK4.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           This SWISS-PROT entry is copyright. It is produced through a chetween the Swiss Institute of Bioinformatics and the EMBL the European Bioinformatics Institute. There are no restrict use by non-profit institutions as long as its content is modified and this statement is not removed. Usage by and fo entities requires a license agreement (See http://www.isb-sib.or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Han S., Stuart L.A., Friezner Degen S.J.;
"Characterization of the DNF15S2 locus on human chromosom identification of a gene coding for four kringle domains homology to hepatocyte growth factor.";
Biochemistry 30:9768-9780(1991).
                                                                                                                                                                                                                                                                                                                                                                                                                                                           InterPro;
InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MEROPS; S01.975; -.
Genew; HGNC:7380; MST1.
MIM; 142408; -.
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                                                                                                                                                                                                                                                                                                                                                                                                     InterPro;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PTM: MAY BE CLEAVED AFTER AA 484, TO YIELD A TWO-CHAIN MOLECULE HELD TOGETHER BY DISULFIDE BONDS, OR TWO SEPARATE POLYPEPTIDES. SIMILARITY: BELONGS TO PEPTIDASE FAMILY S1. PLASMINOGEN SUBPAMILY. SIMILARITY: Contains 4 kringle domains.
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                                                                                                                                                                                                                                                                                                                                                                                                ; IPR000001; Kringle.
; IPR003014; PAN.
; IPR003069; Pan app.
; IPR003966; Prochrombin.
; IPR001254; Ser protease.
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PAP.

KRINGLE 1.

KRINGLE 2.

KRINGLE 3.

KRINGLE 4.

SERINE PROTEASE-LIKE.
BY SIMILARITY.
                                                                                                                                                                  POTENTIAL. HEPATOCYTE
                                                                                                                                                                                                        protease homolog; Repeat; Signal;
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                                                                                                                                                                   GROWTH
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with
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MBL outstation -
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428
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             99
                                                          l Similarity
42; Conserv
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GPWCYTMDPRTPFDYCALRRCADDQ
                             ODCYHGAGEQYRGTVSKTRKGVQCQRWSAETPHKPQFTFTSEPHAQLEENFCRNPDGDSH
            - PWCYTTDPCVRWEYCNLTQCSETE
                                            QDCYHGDGRSYRGISSTTVTGRTCQSWSSMIPHWHQRTPENYPNAGLTENYCRNPDSGKQ
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711
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49.48;
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                                                                                         C -> F.

/FTId=VAR 006632.

E -> K (IN dbsNP:7798).

E -> K (IN REF. 2).

L -> F (IN REF. 2).
                                                                                                                                                                            INTERCHAIN (BY INTERCHAIN)
BY SIMILARITY
                                                          Score 231.5;
Pred. No. 1.6e
0; Mismatches
                                                                                                                                                              N-LINKED
                                                                                                                                                N-LINKED (GLCNAC.
Y -> C.
                                                                                                                                      FTId=VAR_006631.
452
              89
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                                                                    .6e-16;
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                                                                                           CRC64;
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Search completed: January 12, 2004, 17:23:57 Job time: 8.86842 secs

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Maximum Match 100%
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   Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
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sp_virus:*
sp_vertebrate:*
sp_unclassified:*
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sp_organelle:*
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Q8TCE2
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Q9UIR7
Q15146
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Q91wj5 mus musculu
Q16609 homo sapien
Q920w3 rattus norv
O18783 macropus eu
Q28398 erinaceus e
Q8avb0 brachydanio
Q8axy6 gallus gall
Q8tce2 homo sapien
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Q9uir7
Q15146
Q9uir8
Q9uir8
Q9uir5
Q9uir5
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                                                                       6 papio hamad
5 homo sapien
1 canis famil
                                                                                                        homo
homo
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sapien
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19 40. .5 38. .5 37.	32 43.	, 5 6 6 4 3	4444	46 45. 43 45. 45.	252 46.8 251 46.6 250.5 46.4 250 46.4 249.5 46.3 249.5 46.1 248.5 46.1
					290 7110 728 946 209
4 Q9H1V4 4 Q8N696 4 Q8NG20 13 Q8AV69		13 Q90ZN6 4 Q9UMI2 13 Q90865 11 Q55027 5 Q25101		4 Q14519 13 P70006 13 Q91691 6 Q9BH09 4 Q9BYM0	4 Q02935 6 Q46507 13 Q91402 11 Q8C9G5 13 Q07153 13 Q07153 5 Q9Y1Y6 11 Q8BS17 13 Q9PU78
Q911v4 nomo sapien Q8n696 homo sapien Q8ng20 homo sapien Q8av69 xenopus lae	8 gal	Q90zno brachyodnio Q9umiz homo sapien Q90865 gallus gall Q55027 mus musculu Q55101 herdmania m	ح ۾ م	xen xen xen feli	002935 homo sapien 046507 papio hamad 091402 xenopus he 08c995 mus musculu 007153 torpedo cal 09y1y6 ephydatia f 08bs17 mus musculu 09pu78 crocodylus

ALIGNMENTS

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RESULT 1
Q9UIR6
ID Q9UIR
AC Q9UI
AC Q9UI
DT 01-W
DT 01
                                                                                                                                                                                                                                                                          RX MEDLINE-21181705; PubMed-11285247;

RA Ogorelkova M., Kraft H.G., Ehnholm C., Utermann G.;

RY "Single nucleotide polymorphisms in exons of the apo(a) kringles IV

RY types 6 to 10 domain affect Lp(a) plasma concentrations and have

rd different patterns in Africans and Caucasians.";

RL Hum. Mol. Genet. 10:815-824 (2001)

-1- SIMILARITY: CONTAINS 1 KRINGLE DOMAIN.

CC -1- SIMILARITY: CONTAINS 1 KRINGLE DOMAIN.

EMBL; AF158661; AAF03679.1; --

EMBL; AF158661; AAF03679.1; --

EMBL; AF158661; AAF03679.1; JOINED.

REML; AF158660; AAF03679.1; JOINED.

REML; AF158660; AAF03679.1; DOINED.

REML; AF158660; AAF03679.1; DOINED.

REML; FF15860; KRINGLE.

DR PRONTS; PR00001; KRINGLE.

DR PROSITE; PS00013; KRINGLE_1; 1.

DR PROSITE; PS00012; KRINGLE_2; 1.

RY PROSITE; PS00012; KRINGLE_2; 1.

RY PROSITE; PS00012; KRINGLE_2; 1.
Query Match
Best Local Similarity
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Q9UIR6;
Q9UIR6;
Q9UIR6;
Q9UIR6;
Q1-MAY-2000 (TrEMBLrel. 13, Created)
Q1-MAY-2000 (TrEMBLrel. 13, Last sequence update)
Q1-MAR-2003 (TrEMBLrel. 23, Last annotation update)
Apolipoprotein(a) (Fragment).
                                                                                                                              SEQUENCE
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                                                                                                                                                                                                                                                Glycoprotein; Kringle; Lipoprotein
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Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
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Homo sapiens (Human).
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                                                                                                                              113 AA;
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                                                                                   113
12697 MW; 51D4461D9C66312E CRC64;
100.0%;
    Score 539; DB 4;
Pred. No. 1e-52;
                                           Length 113;
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RESULT
Q15146
ID Q1
AC Q1
DT Q1
DT Q1
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OC BE
OC ME
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Matches 71
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MEDLINE-21181705; PubMed-11285247;

MEDLINE-21181705; PubMed-11285247;

Ogorelkova M., Kraft H.G., Ehnholm C., Utermann G.;

Ogorelkova M., Kraft H.G., Ehnholm C., Utermann G.;

"Single nucleotide polymorphisms in exons of the apo(a) kri

rypes 6 to 10 domain affect Lp(a) plasma concentrations and

different patterns in Africans and Caucasians.";

Hum. Mol. Genet. 10:815-824(2001).

-i- SIMILARITY: CONTAINS 1 KRINGLE DOMAIN.

EMBL; AP158659; AAP03678.1; JOINED.

HSSP; P00747; 2PK4.
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Q15146;
01-NOV-1996
01-NOV-1996
01-MAR-2003
Plasminogen I
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Q9UIR7;
01-MAY-2000
01-MAY-2000
01-MAR-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Glycoprotein;
NON_TER 11
NON_TER 11
SEQUENCE 113
   Eukaryota; Metazoa;
Mammalia; Eutheria;
NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Pfam; PF00051; kringle; 1.
PRINTS; PR00018; KRINGLE.
ProDom; PD000395; Kringle; 1.
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                                                                                                           Homo sapiens
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s (Human).
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(TrEMBLrel. 13, Last sequence update)
(TrEMBLrel. 23, Last annotation update)
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Pred. No. 7.4e-40;
5; Mismatches 14
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                                            Craniata; Vertebrata; l
Catarrhini; Hominidae;
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JR SMART; SM00473; PAN AP; 1.

DR SMART; SM00020; Tryp_SPc; 1.

DR SMART; SM00020; Tryp_SPc; 1.

DR PROSITE; PS00021; KRINGLE 1; 5.

DR PROSITE; PS000134; TRYPSIN DOM; 1.

DR PROSITE; PS00134; TRYPSIN SER; 1.

DR PROSITE; PS00134; TRYPSIN SER; 1.

DR PROSITE; PS00135; TRYPSIN SER; 1.

PROSITE; PS00135; TRYPSIN SER; 1.

PROSITE; PS00136; TRYPSIN SER; 1.

DR PROSITE; PS00136; TRYPSIN SER; 1.

DR PROSITE; PS00136; TRYPSIN SER; 1.

DR PROSITE; PS00136; TRYPSIN SER; 1.

PROSITE; PS00136; TRYPSIN SER; 1.

DR PROSITE; PS000136; TRYPSIN SER; 1.

DR PROSITE; PS00136; TRYPSIN SER; 1.

DR PROSITE; PS000136; TRYPSIN SER; 1.

DR PROSITE; PS00136; TRYPSIN SER; 1.

DR PROSITE; PS000136; TRYPSIN SER; 1.

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01-MAY-2000 (
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                                            SEQUENCE FROM N.A.

MEDLINS=21181705; PubMed=11285247;

MEDLINS=21181705; PubMed=11285247;

Ogorelkova M., Kraft H.G., Ehnholm C., Utermann G.;

"Single nucleotide polymorphisms in exons of the apo(a)

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Apollpoprotein(a) (Fragment).
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PRINTS; PR00518; KRINGLE.
PRINTS; PR01505; PROTHROMBIN.
ProDom; PD000395; Kringle; 5.
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                                                                                                                                                                                                                                                                                                                                                                                                            Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           InterPro; IPR003014; PAN.
InterPro; IPR003609; Pan app.
InterPro; IPR003566; Prothrombin
InterPro; IPR001254; Ser_proteas
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HSSP; P00747;
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                                                                                                                                                                                                                                                                                                                                                                   NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Homo sapiens (Human).
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IPR000001; Kringle.
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Pred. No. 8.2e-39;
                                                                                                                                                                                                                                                                                                                                                                                                            Craniata; Vertebrata; Euteleostomi; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mismatches
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EMBL; AF158655; AAF03677.1; JOINED HSSP; P00747; 2PK4.

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RESULT 5
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Best Local :
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                                                                                                                   SMART; SM00130; KR; 2.

SMART; SM0020; Tryp_SPc; 1.

SMART; SM0020; Tryp_SPc; 1.

PROSITE; PS00021; KRINGLE 1; 2.

PROSITE; PS50070; KRINGLE 2; 2.

PROSITE; PS50240; TRYPSIN_DOM; 1.

PROSITE; PS00135; TRYPSIN_SER; 1.

Glycoprotein; Hydrolase; Kringle; Li
                                                                                                                                                                                                                                                                                            InterPro; IPR001314; Chymotrypsin.
InterPro; IPR001001; Kringle.
InterPro; IPR001254; Ser protease_Tr
Pfam; PF00051; Kringle; Z.
Pfam; PF00089; trypsin; 1.
PRINTS; PR00722; CHYMOTRYPSIN.
PRINTS; PR00018; KRINGLE.
ProDom; PD000395; Kringle; Z.
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Pfam; PF00051; kringle; 1.
PRINTS; PR00018; KRINGLE.
ProDom; PD000395; Kringle; 1.
SMART; SM00130; KR; 1.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Glycoprotein; Kringle; Lipoprotein.
NON TER 1 1 1
NON TER 105 AA; 11882 MW; 6ECB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Submitted (OCT-1997) to the EMBL/GenBank/DDBJ databases -:- SIMILARITY: BELONGS TO PEPTIDASE FAMILY S1.
-!- SIMILARITY: CONTAINS 2 KRINGLE DOMAINS.
EMBL; AF029691; AAB97886.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Cox L.A., Jett C., Hixson J.E.;
"Molecular Basis of the Apolipoprotein (a) Null Phenotype:
Site Mutation is Associated with Deletion of a Single Exon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Papio hamadryas (Hamadryas baboon).
Eukaryota; Metazoa; Chordata; Crani
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Apolipoprotein a BABAPOA.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MEROPS; S01.999;
                                                                                                   Serine protease.
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                                                 454 AA;
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Pred. No. 1.2e-39;
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Query Match

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Matches
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                                                                                     O8WMR1

O8WMR1;

O1-MAR-2002 (TrEMBLrel. 2

O1-MAR-2002 (TrEMBLrel. 2

O1-MAR-2003 (TrEMBLrel. 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     "Single nucleotide polymorphisms in exons of the apo(a) types 6 to 10 domain affect Lp(a) plasma concentrations different patterns in Africans and Caucasians."; Hum. Mol. Genet. 10:815-824(2001).
-!- SIMILARITY: CONTAINS 1 KRINGLE DOMAIN.
EMBL; AF158663; AAF03680.1; -
EMBL; AF158662; AAF03680.1; JOINED.
HSSP; P00747; IPMK.
Plasminogen (Fragment).
Canis familiaris (Dog).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Mammalia; Eutheria; Carnivora; Fissipedia; Canidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Glycoprotein; Kringle; Lipoprotein.
NON_TER 1 1 1
NON_TER 113 113
SEQUENCE 113 AA; 12685 MW; F3D6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Q9UIR5; PRELIMINARY;
Q9UIR5; 01-MAY-2000 (TrEMBLrel. 13,
01-MAY-2000 (TrEMBLrel. 13,
01-MAR-2003 (TrEMBLrel. 23,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Pfam; PF00051; kringle; 1.
PRINTS; PR00018; KRINGLE.
ProDom; PD000395; Kringle; 1.
SMART; SM00130; KR; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PROSITE; PS00021; KRINGLE_1; 1. PROSITE; PS50070; KRINGLE_2; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDLINE=21181705; PubMed=11285247;
Ogorelkova M., Kraft H.G., Ehnholm C.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Apolipoprotein(a) (Fragment).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             nterPro; IPR000001; Kringle.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        155
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                95 QSPEVQDCYHGDGQSYRGSFSTTVTGRTCQSWSSMTPHQHKRTPENHPNDGLTMNYCRNP
                                                                                                                                                                                                                                                                                                   64
                                                                                                                                                                                                                                                                                                                                                13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     67;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ب
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Similarity
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                                                                                                                                                                                                                                                                                                   DADTGPWCFTMDPSIRWEYCNLTRCSDTE
                                                                                                                                                                                                                                                                                                                                  DSGKQPWCYTTDPCVRWEYCNLTQCSETE 89
                                                                                                                                                                                                                                                                                                                                                                                                                     DADTGPWCFTMDPSVRWEYCNLTRCSDTE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          KSPVVQDCYHGDGRSYRGISSTTVTGRTCQSWSSMIPHWHQRTPENYPNAGLTENYCRNP
                                                                                                                                                                                                                                                                                                                                                                                           QTPVVRQCYHGNGQSYRGTFSTTVTGRTCQSWSSMTPHRHQRTPENYPNDGLTMNYCRNP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (Human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       113
12685 MW; F3D65681D9B5253A CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Chordata;
Primates;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        75.9%;
75.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               77.5%;
                                                                                          20,
20,
23,
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                                                                                          Last sequence update)
Last annotation updat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 409; DB
Pred. No. 3.5e
10; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Created)
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8; Mismatches 12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Craniata; Vertebrata; l
Catarrhini; Hominidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRT;
                                                                                                                                                                                      PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           113
                                                                                                                                                                                        359
                                                                                                                                                                                                                                                                                                   92
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB 4;
.5e-38;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ₽
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 113
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Euteleostomi;
       Euteleostomi;
Canis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        kringles
and have
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Q289117 8
Q28911 ID Q2891
ID Q289
AC Q
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Best Local Similarity
Matches 62; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          INTERPOSE PRODOMS PRODOMS PRODOMS PRODOMS PRODOMS PROPOSE PROP
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01-NOV-1996
01-MAY-1999
01-MAR-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.

MEDLINE-95395387; PubMed-7666007;

Ramharack R., Spahr M.A., Hicks G.W., Kieft K.A., Brammer D.W.,

Minton L.L., Newton R.S.;

"Genfibrozil significantly lowers cynomolgus monkey plasma

"Genfibrozil significantly lowers cynomolgus monkey plasma

"Genfibrozila significantly lowers cynomolgus monkey plasma

"Genfibroz
Glycoprotein; Kringle; Lipoprotein.
NON TER 145 145
SEQUENCE 145 AA; 16097 MW; 0D2D
                                                                                                                                                 SMART; SM00130; KR; 1.
PROSITE; PS00021; KRINGLE_1; 1.
PROSITE; PS50070; KRINGLE_2; 1.
                                                                                                                                                                                                                                                                                              Pfam; PF00051; kringle; 1.
PRINTS; PR00018; KRINGLE.
ProDom; PD000395; Kringle; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Macaca fascicularis (Crab eating macaque) (Cynomolgus monkey).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Cercopithecidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            01-NOV-1996 (TrEMBLrel. 01, Created)
01-MAY-1999 (TrEMBLrel. 10, Last sequence update)
01-MAR-2003 (TrEMBLrel. 23, Last annotation updat
Apolipoprotein[a] (Fragment).
APOLIPOPROTEIN[A]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Glycoprotein; Kringle.
NON_TER 1 1
NON_TER 359 359
SEQUENCE 359 AA; 41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A.
Pirie-Shepherd S.R., Coffman K.T.,
Folkman J., Waters D.J.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EMBL; S79621; AAD14312.1;
HSSP; P00747; 2PK4.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Cercopithecinae; Macaca.
NCBI_TaxID=9541;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Q28911
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PROSITE; PS50070; KRINGLE_2; 4.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Submitted (DEC-2001) to the EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SMART; SM00130; KR;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NCBI_TaxID=9615;
                                                                                                                                                                                                                                                                                                                                                                                                                                                          InterPro; IPR000001; Kringle.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Angiostatin is Detectable in the Urine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               335 DADKSPWCYTTDPSVRWEFCNLRKC 359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 KSPVVQDCYHGDGRSYRGISSTTVIGRTCQSWSSMIPHWHQRTPENYPNAGLTENYCRNP ::|||:|||::||||:|||||||||
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DSGKQPWCYTTDPCVRWEYCNLTQC 85
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           QTPVVQECYHGNGQSYRGTSSTTITGRKCQSWSSMTPHRHEKTPEHFPEAGLTMNYCRNP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          72.7%;
72.9%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       41172 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 13;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 392; DB 6; Length 35
Pred. No. 9.9e-36;
3; Mismatches 10; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       776D35F4AB0BDD9E CRC64;
          0D2DA20A06A5DD87 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DOMAINS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Resnick D., Chan R., Kisker
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                145
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mRNA levels."
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R InterPro; IPRUU14VU; DOMESTANDERS | Refam; PF00051; Kringle; 5.

R Pfam; PF00024; PAN; 1.

DR Pfam; PF00089; trypsin; 1.

DR PRINTS; PR00102; CHYMOTEVESIN.

DR PRINTS; PR001012; KRINGLE 1.

DR PRODOM; PD000395; Kringle; 5.

DR PROSITE; PS00031; KRINGLE 1; 5.

DR PROSITE; PS00031; KRINGLE 2; 5.

DR PROSITE; PS00038; SOMATOTROPIN 2; 1.

DR PROSITE; PS00134; TRYPSIN DOM; 1.

DR PROSITE; PS00135; TRYPSIN DOM; 1.

DR PROSITE; PS00135; TRYPSIN SER; 1.
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01-DEC-2001
01-DEC-2001
01-MAR-2003
                                                                                                                                                                                                                                                                                                                                                                      Submitted (FEB-2002) to the EMBL/GenBank/DI
-;- SIMILARITY: CONTAINS 5 KRINGLE DOMAINS.
EMBL; BC014773; AAH14773.1; -.
EMBL; AF481053; AAM22156.1; -.
EMBL; AF481053; AAM22156.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mus musculus (Mouse).
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
                                                                                                                                                                                                                                                                                    InterPro; IPR001314; Chymotrypsin.
InterPro; IPR000001; Kringle.
InterPro; IPR003014; PAN.
InterPro; IPR003014; PCTP001101.
InterPro; IPR001154; Ser protease
InterPro; IPR001400; Somatotropin.
                                                                                                                                                                                                                                                                                                                                                                                                                                                             Brathwaite M., Waeltz P., Qian Y.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Submitted
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TISSUE=Liver;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Plasminogen.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                 Nagaraj
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                      "Genomic Sequence Analysis in the Mouse
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                                                            Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DPVAAPYCYTMDPNVRWEYCNLTRCSDAE 124
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SHVVQDCYHGDGQSYQGTSSTTVTGRTCQAWSSMEPHQHNRTTENYPNAGLIRNYCRNP
              QTPVVQECYQSDGQSYRGTSSTT1TGKKCQSWAAMFPHRHSKTPENFPDAGLEMNYCRNP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (OCT-2001) to the
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                                                            72.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                         alysis in the Mouse t-complex Region.";
to the EMBL/GenBank/DDBJ databases.
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23,
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Last annotation update)
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Pred. No. 4.8e-36;
                                                 Score 388; DB 11;
Pred. No. 6.7e-35;
2; Mismatches 14;
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61

DSGKQPWCYTTDPCVRWEYCNLTQCSET

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RESULT 11
Q9ROW3
ID Q9ROW
AC Q9ROW
AC Q9ROW
DT 01-MA
DT 01-MA
DT 01-MA
DT 01-MA
DT 01-MA
CO PLASM
GN PLASM
OC ELKAZ
OC Mamma
OX NCB1_
RN [1]
RP SEQUE
RC TISSU
RA Bange
RT Submi
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Best Local S
Matches 63
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PFAm; PF000518; KRINGLE.
PRODOM; PR0000395; KRINGLE; 1.
SMART; SM00130; KR; 1.
PROSITE; PS00021; KRINGLE 1; 1.
PROSITE; PS00070; KRINGLE 2; 1.
                                                                                                                                        Q9R0W3;
Q9R0W3;
01-MAY-2000
01-MAY-2000
01-MAR-2003
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Q1-NOV-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Byrne C.D., Schwartz K., Lawn R.M.;

"Loss of a splice donor site at a 'skipped exon'
to apolipoprotein(a) leads to an mRNA encoding a
a single kringle domain.";

Arterioscler: Thromb. Vasc. Biol. 15:65-70(1995).

-!- SIMILARITY: CONTAINS 1 KRINGLE DOMAIN.
                                                                  Eukaryota; Metazoa;
Mammalia; Eutheria;
NCBI_TaxID=10116;
Bangert K., Johnsen A.H., Thorsen S.; "Rat plasminogen: cDNA and gene structure."; Submitted (MAY-1999) to the EMBL/GenBank/DDBJ databases.
                                                                                                        Rattus norvegicus (Rat).
                                                                                                                    Plasminogen protein PLASMINOGEN.
                                                                                                                                                                                                                                                                                                                                                                                            Glycoprotein; Kringle.
SEQUENCE 132 AA; 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EMBL; U19518; AAA85693.1; -.
EMBL; U19517; AAA85692.1; -.
HSSP; P00747; 1PMK.
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Eukaryota; Metazoa;
Mammalia; Eutheria;
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01-MAR-2003
                                   TISSUE=Liver;
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                                              SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MEDLINE=95268939; PubMed=7749817;
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                                                                                                                                                                                                                                                                                                                      3 PVVQDCYHGDGRSYRGISSTTVTGRTCQSWSSMIPHWHQRTPENYPNAGLTENYCRNPDS
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                                                                                                                                                                                                                                                   SAGPWCYTTDPNVRWEYCNLTRCSDDE 109
                                                                                                                                                                                                                                                                                               PSVQECYHSNGQSYRGTYFTTVTGRTCQAWSSMTPHQHSRTPEKYPNDGLISNYCRNPDC
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                                                                                                                   Conservative
                                                                                                                                                                                         PRELIMINARY;
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                                                                                 Chordata;
Rodentia;
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Primates;
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72.4%;
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Last
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                                                                                                                                                                                                                                                                                                                                                        Score 380; DB 4;
Pred. No. 7.3e-35;
                                                                               Craniata; Vertebrata; Euteleostomi; Sciurognathi; Muridae; Murinae; Rat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Craniata; Vertebrata; Euteleostomi; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                         PRT;
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RESULT 12
01878
ID 01878
AC 01878
AC 01878
DT 01-JA
DT 01-MA
DT 01-MA
DT 01-MA
COC EUAcar
OC EUAcar
OC MAMMA
OX NCBI
RN (1)
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RR (1)
RR (1)
RA LAWN
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CR EMBL;
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SMART; SM00020; TRYP SPC; 1.

PROSITE; PS00021; KRINGLE 1; 5.

PROSITE; PS50070; KRINGLE 2; 5.

PROSITE; PS50038; SOMATOTROPIN 2; 1

PROSITE; PS50240; TRYPSIN DON; 2; 1

PROSITE; PS500134; TRYPSIN HIS; 1.

PROSITE; PS00135; TRYPSIN SER; 1.
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InterPro; IPR000001; Kringle.
InterPro; IPR003001; PAN.
InterPro; IPR003569; Pan_app.
InterPro; IPR003569; Prothrombin.
InterPro; IPR001254; Ser_protease_T.
InterPro; IPR001400; Somatotropin.
                                                                                                                                                                                                                                                                                                                                              O18783;
O1-JAN-1998 (
O1-JAN-1998 (
O1-MAR-2003 (
MEDLINE-98004511; PubMed-9342350;
Lawn R.M., Schwartz K., Patthy L.;
"Convergent evolution of apolipoprotein(a) in primates
Proc. Natl. Acad. Sci. U.S.A. 94:11992-11997(1997).
-!- SIMILARITY: CONTAINS 5 KRINGLE DOMAINS.
EMBL; AF012297; AAB65760.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CHAIN
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Glycoprotein; Hydrolase; \overline{K}ringle; Protease; Serine protease; SIGNAL 1 19
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Pfam; PF00024; PAN; 1.
Pfam; PF00089; trypsin; 1.
PRINTS; PR00722; CHYMOTRYPSIN.
                                                                                                                                                     SEQUENCE FROM
TISSUE=Liver;
                                                                                                                                                                                                                                                    Eukaryota; Metazoa; C
Mammalia; Metatheria;
                                                                                                                                                                                                                                                                                            Macropus eugenii (Tammar wallaby).
                                                                                                                                                                                                                                                                                                                        Plasminogen.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRINTS; PR00722; CHYMOTRYPSIN
PRINTS; PR00018; KRINGLE.
PRINTS; PR01505; PROTHROMBIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Kanalas J.J., Makker S.P.;
"Identification of the rat Heymann n
"Edeptor site for plasminogen.";
J. Biol. Chem. 266:10825-10829(1991)
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                                                                                                                                                                                                                      NCBI_TaxID=9315;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EMBL; AJ242649; CAB46014.1; -. HSSP; P00747; 1PMK.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MEDLINE=91250378;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TISSUE=Liver;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SIMILARITY: CONTAINS 5 KRINGLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     429
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 KSPVVQDCYHGDGRSYRGISSTTVTGRTCQSWSSMIPHWHQRTPENYPNAGLTENYCRNP ::||||:|||:|||||||||
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Similarity
                                                                                                                                                                            FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DNDQRGPWCFTTDPSVRWEYCNLKRCSETGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DSGKQ-PWCYTTDPCVRWEYCNLTQCSETESG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               QTPVVQECYQGNGKSYRGTSSTTNTGKKCQSWVSMTPHSHSKTPANFPDAGLEMNYCKNP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        20
812 AA;
                                                                                                                                                                                                                                                                                                                                            (TrEMBLrel.) (TrEMBLrel.) (TrEMBLrel.)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PubMed=1645711;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   812
                                                                                                                                                                                                                                                    Chordata; Craniata; Vertebrata; Euteleos
a; Diprotodontia; Macropodidae; Macropus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          90535 MW;
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                                                                                                                                                                                                                                                                                                                                              05,
23,
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Last seq
Last ann
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Pred. No. 1.
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annotation update)
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ies 16;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CRC64;
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                                                                                                                                                                                                                                                                             Euteleostomi;
                                                                                    and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             812;
                                                                                  hedgehog.";
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HSSP; P00747; MEROPS; S01.2

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Q28398
ID Q2839
AC Q2
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Best Local S
Matches 57
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ### Pfam; PF00051; Kringle; 5.

R Pfam; PF00024; PAN; 1.

R Pfam; PF00024; PAN; 1.

R Pfam; PF00089; Lrypsin; 1.

R PRINTS; PR00722; CHYMOTRYPSIN.

R PRINTS; PR00103; KRINGLE;

R PRINTS; PR010395; Kringle; 5.

R PROSTE; SM00473; PAN AP; 1.

R SMART; SM00473; PAN AP; 1.

R SMART; SM00473; PAN AP; 1.

R SMART; SM00473; PAN AP; 1.

R PROSITE; PS00021; KRINGLE 1; 5.

R PROSITE; PS00021; KRINGLE 1; 5.

R PROSITE; PS00134; TRYPSIN_DOM; 1.

R PROSITE; PS00134; TRYPSIN_SER; 1.

R PROSITE; PS00135; TRYPSIN_SER; 1.
                                                                       InterPro: IPRO00001; Kringle.
Pfam; PF00051; Kringle; 31.
PRINTS; PR00015; KRINGLE.
ProDom; PD000395; Kringle; 31.
SMART; SM00130; KR; 31.
PROSITE; PS00021; KRINGLE 1; 30.
PROSITE; PS50070; KRINGLE 2; 31.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Q28398;
Q28398;
Q1-NOV-1996;
Q1-NOV-1996;
Q1-MAR-2003;
                                                                                                                                                                                                                                                                                                                                                                                MEDLINE=96025778; PubMed=7592597;
Lawn R.M., Boonmark N.W., Schwartz K., Lindahl G.E.,
Byrne C.D., Fong K.J., Meer K., Patthy L.;
"The recurring evolution of lipoprotein(a). Insights
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Erinaceus europaeus
Eukaryota; Metazoa;
Mammalia; Eutheria;
                          Glycoprotein; Kringle; Lipoprotein.
                                                                                                                                                                                                                                                         EMBL; U33170; AAC48522.1; HSSP; P00747; 1PMK.
                                                                                                                                                                                                                                                                                                        InterPro; IPR003609; Pan app.
InterPro; IPR003966; ProThrombin.
InterPro; IPR001254; Ser protease_Try.
Pfam; PF00051; kringle; 5.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Apolipoprotein(a) (Fragment)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NCBI_TaxID=9365;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                InterPro;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               61
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DGDKSPWCYTMDPTVRWEFCNLEKCSGTGS
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IPR000001; Kringle.
IPR003014; PAN.
     2869
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (TrEMBLrel. 01, Created)
(TrEMBLrel. 01, Last sequence update)
(TrEMBLrel. 23, Last annotation update)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRELIMINARY;
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ج
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (Western European hedgehog).
Chordata; Craniata; Vertebrata; Euteleostomi;
Insectivora; Erinaceidae; Erinaceinae; Erinac
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           67.9%;
63.3%;
     318601 NW;
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Pred. No. 1.9e-32;
5; Mismatches 18;
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     9527CEF985A4FB2A CRC64;
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                                                                                                                                                                                                                                                                                                              DOMAINS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  453
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                                                                                                                                                                                                                                                                                                                                                                                             얁
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QBAXY6
QBAXY6
QBAXY6
QBAXY6
QBAXY
DD QBAXY
DD QL-MA
DD QL-MA
DD QL-MA
DD Muscl
QC Gallu
QC Gallu
QX MCBI
RN [2]
RP SEQUE
RX Yancc
RT "Clor
RL Mol
RP SEQUE
RP SEQUE
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Best Local S
Matches 47
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Best Local S
Matches 45
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Q8AVB0;
01-MAR-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                       01-MAR-2003 (TrEMBLrel. 23, Created)
01-MAR-2003 (TrEMBLrel. 23, Last sequence update)
01-MAR-2003 (TrEMBLrel. 23, Last annotation update)
01-MAR-2003 (TrEMBLrel. 23, Last annotation update)
Muscle-specific receptor tyrosine kinase MuSK.
Gallus gallus (Chicken).
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01-MAR-2003 (TrEMBLrel. 23, Last sequence update)
01-MAR-2003 (TrEMBLrel. 23, Last sequence update)
01-MAR-2003 (TrEMBLrel. 23, Last annotation update)
101-MAR-2003 (TrEMBLrel. 23, Created)
101-MAR-2003 (TrEMBLrel. 23, Last annotation update)
101-MAR-2003 (TrEMBLrel. 23, Last sequence update)
101-MAR-2003 (TREMBLRel. 2
                                                                                                  SEQUENCE FROM N.A.

MEDILINE=20538710; PubMed=11083926;

IP F.C., Glass D.G., Gies D.R., Cheung J., Lai K.

Yancopoulos G.D., IP N.Y.;

"Cloning and characterization of muscle-specific
"Cloning and characterization of muscle-specific
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MON TER
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Hanumanthaiah R., Day K., Jagadeeswaran P.;

"Comprehensive analysis of blood coagulation pathways in Evolution of coagulation factor genes and identification factor VIII.";
                                                                 "Cloning and charact
                                                                                                                                                                                                                                                                                                                                                                                         Archosauria; Aves; Neognathae; Galliformes; Phasianidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                 Eukaryota; Metazoa;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Q8AXY6;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Q8AXY6
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EMBL; AF515276; AAN71006.1; -.
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   SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                NCBI_TaxID=9031;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               156
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61 DSG-KOPWCYTTDPCVRWEYCNLTQCSETESG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           47;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2 SPVVQDCYHGDGRSYRGISSTTVTGRTCQSWSSMIPHWHQR-TPENYPNAGLTENYCRNP
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Plasminogen procei	Sequence encoded b	gen		R561S human plasmi	human	human	plasmi	PA mutant Plg 1-54	Human plasminogen	Human plasminogen	Amino acid sequenc	Human plasminogen	Human plasminogen.	Human plasminogen,	Human plasminogen.	Mammalian kringle	Human 'Glu' plasmi	Angiotensin-tumour	Angiotensin-tumour	A multifunctional	Endothelial cell g	Human plasminogen	[GARSYQ] - [Plasmino	<u> </u>	plasm	Amino acid sequenc	Angiogenesis inhib		A multifunctional	Human angiostatin	Human angiostatin	Human kringle 1-4B	Angiogenesis inhib		Amino acid sequenc

ALIGNMENTS

AAY72945 RESULT 1 Human; angiogenesis inhibitor; LK6; apolipoprotein(a) kringle domain; angiogenesis-mediated disease; cancer; rheumatoid arthritis; therapy; cytostatic; antirheumatic; antiarthritic; antipsoriatic; psoriasis; ocular angiogenic disease; endothelial cell proliferation; tumour; cell migration. AAY72945; N-PSDB; AAD03256. WPI; 2001-244787/25. Chang J, 15-SEP-1999; 22-MAR-2001. WO200119868-A1 Homo Human apolipoprotein(a) kringle domain IV36, LK6 protein 13-JUN-2001 AAY72945 standard; Protein; 91 15-SEP-1999; sapiens. MOGAM BIOTECHNOLOGY RES INST. Kim JS, (first entry) 99WO-KR00554 99WO-KR00554 Park EJ, Yum J, B Chung S

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Novel angiogenesis inhibitor, LK68 for treating angiogenesis-mediated diseases, e.g. cancer and rheumatoid arthritis, has human apolipoprotein(a) kringle domains IV36, IV37 and V38 amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Human; angiogenesis inhibitor; LK68; apolipoprotein(a) kringle domain; angiogenesis-mediated disease; cancer; rheumatoid arthritis; therapy; cytostatic; antirheumatic; antiarthritic; antipsoriatic; psoriasis;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        61
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DSGKQPWCYTTDPCVRWEYCNLTQCSETESG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DSGKQPWCYTTDPCVRWEYCNLTQCSETESG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      KSPVVQDCYHGDGRSYRGISSTTVTGRTCQSWSSMIPHWHQRTPENYPNAGLTENYCRNP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   KSPVVQDCYHGDGRSYRGISSTTVTGRTCQSWSSMIPHWHQRTPENYPNAGLTENYCRNP
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (first entry)
       99WO-KR00554.
                                                                                                                                                                                                                                                                                                                                 protein"
223..308
                                                                                                                                                                                                                     /note= "Apolipoprotein(a) kringle domain V38,
protein"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /label= KIV36
/note= "Apolipoprotein(a) kringle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                             /label= KIV37
/note= "Apolipoprotein(a) kringle
                                                                                                                                                                                                                                                                                            label- KV38
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       disease; endothelial cell proliferation;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              100.0%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0,
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Pred. No. 1.5e-42;
; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ₹
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                                                                                                                                                                                                                                                                                                                                                                                                    domain IV37,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  domain
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                                                                                                                                                                                                                                                              27.
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Best Local S
Matches 91
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LK68 protein contains the amino acid sequences of human applipportein(a) kringle domains IV36 (LK6 protein), IV37 (LK7 protein) and V38 (LK6 protein). LK68, LK6, LK7 and LK8 are inhibitors are of endothelial cell proliferation, cell migration and normal development of capillaries in the chick embryo chorioallantoic membrane (CAM). LK68 protein, its single kringles or their functional equivalents, are useful for treating angiogenesis-mediated diseases, such as cancer, rheumatoid arthritis, psoriasis or ocular angiogenic disease in animals or humans. LK68 is useful as an anticancer agent and also for inhibiting primary
                                                                                                                                                                                   Angiostatin; plasminogen; sulfydryl donor; angiogenesis; tumour; angiogenic disease; neoplastic disease; connective tissue disorder; rheumatoid arthritis; atherosclerosis; ocular angiogenic disease; diabetic retinopathy; corneal graft rejection; cardiovascular disease; cerebral vascular disease; diabetes; immune disorder;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Novel angiogenesis inhibitor, LK68 for treating angiogenesis-mediated diseases, e.g. cancer and rheumatoid arthritis, has human apolipoprotein(a) kringle domains IV36, IV37 and V38 amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Claim 4; Page 42-44; 50pp; English.
                                                                                                                                                                                                                                                                                                 13-NOV-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               tumour growth.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 The present sequence is human angiogenesis inhibitor, LK68 protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    15-SEP-1999;
                                        08-FEB-2000; 2000US-0500397
                                                                   08-FEB
                                                                                            16-AUG-2001
                                                                                                                       WO200158921-A2
                                                                                                                                                  Macaca mulatta.
                                                                                                                                                                                                                                                                         Amino acid sequence
                                                                                                                                                                                                                                                                                                                                                        AAG67228 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2001-244787/25
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                                                                  -2001; 2001WO-US04021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  91;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MOGAM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Similarity 100.
                                                                                                                                                                           inflammation; autoimmunity.
                                                                                                                                                                                                                                                                                                                                                                                                                                                DSGKQPWCYTTDPCVRWEYCNLTQCSETESG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         KSPVVQDCYHGDGRSYRGISSTTVTGRTCQSWSSMIPHWHQRTPENYPNAGLTENYCRNP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Kim JS,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    308 AA;
                                                                                                                                                                                                                                                                                                  (first
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           BIOTECHNOLOGY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    99WO-KR00554
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Park EJ,
                                                                                                                                                                                                                                                                                                                                                        Protein;
                                                                                                                                                                                                                                                                        of monkey plasminogen.
                                                                                                                                                                                                                                                                                                  entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           100.0%;
                                                                                                                                                                                                                                                                                                                                                        810
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Yum J, Chung
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 539; DB 22;
Pred. No. 4.8e-42;
; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                        ₿
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Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 donor, or culturing cells capable of producing plasminogen activator in conditioned culture medium (CCM) and contacting the CCM with plasminogen. Angiostatin produced by method of the invention is useful for treating animals with angiogenesis diseases. It is useful for treating an angiogenic disease such as neoplastic diseases (e.g. tumours and tumour metastasis), benign tumours (e.g. hemangiomas, acoustic neuromas, etc), connective tissue disorders (e.g. rheumatoid arthritis and atherosclerosis), ocular angiogenic diseases (e.g. diabetto retinopathy, corneal graft rejection, etc), cardiovascular diseases, cerebral vascular diseases, diabetes-associated diseases and immune disorders (e.g. chronic inflammation and autoimmunity). The present
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          interferon-inducible protein; platelet factor 4; anti-angiogenic; anti-tumor; multifunctional protein; angiogenic-mediated disease; cancer; diabetic retinopathy; macular degeneration; arthritis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Producing angiostatin for treating angiogenic diseases involves contacting plasminogen with plasminogen activator and sulfhydryl donor simultaneously, or producing plasmin which is contacted with sulfhydryl
                                 Bolanowski MA, Cap
Klein BK, McKearn
                                                                                                                                                                                 01-OCT-1997;
                                                                                                                                                                                                                                                                                                 08-APR-1999.
                                                                                                                                                                                                                                                                                                                                                                                                                                              Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A multifunctional protein of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       16-JUL-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAY02108
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                                                                                                                                                                                                                                     30-SEP-1998;
                                                                                                                                                                                                                                                                                                                                                       WO9916889-A1
                                                                                                                                                                                                                                                                                                                                                                                                                Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Angiostatin; endostatin; interferon; thrombospondin;
                                                                                                                        (SEAR ) SEARLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              specification
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      371
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     cell production.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      68;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       cification describes a method for generating angiostatin in The method comprises contacting plasminogen with a sulfydryl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SGKQPWCYTTDPCVRWEYCNLTQCSETE 89
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SPVVQDCYHGDGRSYRGISSTTVTGRTCQSWSSMIPHWHQRTPENYPNAGLTENYCRNPD 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               represents a plasminogen.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ADKGPWCFTTDPSVRWEYCNLKKCSGTE 458
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TPVVQECYHGDGQSYRGTSSTTTTGKKCQSWSSMTPHWHEKTPENFPNAGLTMNYCRNPD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gately
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
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                                                                                                                     & CO G D.
                                                                                                                                                                                 97US-0060609
                                                                                                                                                                                                                                           98WO-US20464
                                    Caparon MH, arn JP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              78.8%;
77.3%;
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Pred. No. 4.3e-31;
.0; Mismatches 10;
                                                         Casperson
                                                               ФF,
                                                               Gregory SA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         10;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Angiostatin; endostatin; interferon; thrombospondin; interferon-inducible protein; platelet factor 4; anti-angiogenic; anti-tumor; multifunctional protein; angiogenic-mediated disease;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Claim 5; Page 103-104; 121pp; English
                                                           WPI; 1999-255098/21
                                                                                                                 Bolanowski MA, Caparon
Klein BK, McKearn JP;
                                                                                                                                                                                                                                                                     01-OCT-1997;
                                                                                                                                                                                                                                                                                                                                 30-SEP-1998;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          tumor cell production.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            cancer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A multifunctional
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          62 SGKQPWCYTTDPCVRWEYCNLTQCSETES 90
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         diabetic retinopathy; macular degeneration; arthritis;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  280
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Pred. No. 2.3e-31;
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New multifunctional proteins useful for treating angiogenic-mediated

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ARYSHER AAYOR AAYOR AAYOR AAYOR AAYOR AAYOR AAYOR XX AAYOR XX Plas KW Plas KW Plas KW Plas KW Plas CO-N XX WO99 XX WO99 XX WO99 XX ZO-N XX ZO-N XX ZO-N XX ZO-N XX AAYOR AA (GEN PR ZO-N XX AAYOR AA (GEN PR ZO-N XX AAYOR AA (MAS XX AAYOR 
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Plasminogen; human; angiostatin; endostatin; gene therapy; vector; anti-angiogenic; attenuation; cytostatic; anti-diabetic; ophthalmology; tumour growth; solid tumour; diabetic retinopathy; retina.
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N-PSDB; AAX77713.
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                                                                                Disclosure; Page 59-60; 83pp; English
                                                                                                                                Anti-angiogenic
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                                                                                                                                                                                                                                                                            Leboulch
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78.7%;
                                                                                                                                      therapy vectors
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INST TECHNOLOGY.
                                                                                                                                                                                                                                                                               Pawliuk RJ;
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Pred. No. 2.4e-31;
8; Mismatches 11;
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This invention describes a novel viral gene therapy vector comprising nucleic acid molecule encoding an anti-angiogenic polypeptide chosen

The patent discloses a DNA molecule encoding a fusion protein comprising a signal sequence, an immunoglobulin FC region, and an angiogenesis inhibitor selected from angiosetatin, endostatin, a plasminogen fragment having angiostatin activity, a collagen XVIII fragment having endostatin activity, or combinations of them. The fusion protein (immunofusin) is

an angiogenesis

having endostatin (immunofusin) is

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Pages 45-46; 68pp; English.

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RRESULT 7
AAY70255
ID AAY70255
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     angiogenesis; inhibitor; cytostatic; antirheumatoid; antiarthritic; antipsoriatic; antidiabetic; ophthalmological; immunosuppressant; vasotropic; vulnerary; treatment; antiarteriosclerosis; tumour; metastasis; atherosclerosis; psoriasis; rheumatoid arthritis; ocular angiogenic disease; diabetic retinopathy; macular degeneration; myocardial angiogenesis; plaque neovascularisation; telangiectasia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Homo
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                                                                                                                                                                                                                              Novel fusion protein of angiostatin or endostatin and an immunoglobulin FC region, useful for treating conditions mediated by angiogenesis, such as rheumatoid arthritis, tumors and macular degeneration -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Human angiogenesis inhibitor, angiostatin.
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Pred. No. 3e-31;
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The specification describes multifunctional proteins which comprise combinations of angiostatin, endostatin, interferon, thrombospondin, interferon-inducible protein and platelet factor 4, and have
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     used to inhibit angiogenesis and to treat diseases or conditions mediated by angiogenesis. Conditions that may be treated include solid tumours, blood born tumours, tumour metastasis, benign tumours including
                                                                                                                                                                                                                                                            New multifunctional proteins useful
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Pred. No. 3e-31;
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                                                                                                                                                                                                                                                                                 Preparation of Kringle five peptide fragment for treating various disorders such as angiogenic, ocular, skin diseases and cancer, involves mixing mammalian plasminogen and elastase followed by
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antipsoriatic; antiinflammatory; antiulcer; antirheumatic; antiarthritic;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        The present sequence represents a multifunctional protein of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SPYVQDCYHGDGRSYRGISSTTVTGRTCQSWSSMIPHWHQRTPENYPNAGLTENYCRNPD 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ADKGPWCFTTDPSVRWEYCNLKKCSGTEA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TPVVQDCYHGDGQSYRGTSSTTTTGKKCQSWSSMTPHRHQKTPENYPNAGLIMNYCRNPD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             standard; Protein; 364
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SGKQPWCYTTDPCVRWEYCNLTQCSETES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        364
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              human; kringle domain; endothelial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LAB.
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97US-0832087.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             cancer; tumour;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  78.5%;
78.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 423; DB 2
Pred. No. 3e-31;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             autoimmune disease.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              364
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 90
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                20;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 cell proliferation;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
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The invention relates to a method of preparing plasminogen kringle 5 peptide fragments. The method comprises mixing mammalian plasminogen and elastase in the ratio 1:100-1:300, followed by incubating and isolating the fragment. The kringle 5 peptides are inhibitors of angiogenesis and endothelial cell proliferation and migration. The peptides are useful for treating angiogenic diseases, primary and metastatic solid tumours

Example

17;

Page -; 48pp;

English.

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RESULT 10
AAY53868
ID AAY53
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CC endocrine glands, skin, tumours of the brain and eyes and solid tumours
CC arising from haematopoietic malignancies such as leukaemias and
CC lymphomas. They are also used for the prophylaxis of various autoimmune
CC (e.g., psoriasis), blood vessel diseases (e.g. haemangiomas, Osler-Webber
CC (syndrome), diseases caused by excessive or abnormal stimulation of
CC endothelial cells (e.g., Crohn's disease, atherosclerosis), diseases
CC which have angiogenesis as a pathologic consequence (e.g., cat scratch
CC disease and ulcers). The peptides are also useful as a birth control
CC agent which inhibits ovulation and establishment of the placenta.
CC sequences AAB01906-B01919 represent fragments of human plasminogen used
CC in an exemplification of the invention.
CC Note: This sequence is not shown in the specification, but is derived
CC from the full length human plasminogen sequence (AAB01887) shown in
Query Match
Best Local S
Matches 70
                                                                                Purifying angiogenesis inhibitors produced as recombinant proteins in Escherichia coll, useful as anticancer agents and for treating ocular diseases -
                                                                                                                                                                                                                                                                                                                                                                                                                                           Human, plasminogen; angiostatin; greenstatin; thrombolytic factor; angiogenesis inhibitory protein; proliferation; angiogenesis; cancer; vascular endothelial cell; ophthalmic disease; glaucoma; diabetic retinopathy; arthritis; psoriasis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAY53868
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAY53868 standard; protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence
                                                                                                                                                                                                                                                                 28-MAY-1998;
27-MAY-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Amino acid sequence of human angiostatin protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                13-MAR-2000 (first
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                figure
                                              Claim 2; Page 45-47; 55pp; English.
                                                                                                                                                                                                                                                                                                                   28-MAY-1999;
                                                                                                                                                                                                                                                                                                                                                                                 WO9961464-A1
                                                                                                                                                WPI; 2000-086703/07
                                                                                                                                                                                                                                 (GREC ) KOREA GREEN CROSS CORP.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        62 SGKQPWCYTTDPCVRWEYCNLTQCSETES 90
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                                                                                                                                                                               So SH, F
Chang S;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ADKGPWCFTTDPSVRWEYCNLKKCSGTEA 361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  364 AA;
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                                                                                                                                                                                                                                                                 98KR-0019535.
99KR-0019144.
                                                                                                                                                                                                                                                                                                                   99WO-KR00263
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                                                                                                                                                                                                  ВС,
                                                                                                                                                                                                  Lee H,
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Pred. No. 3e-31;
8; Mismatches
                                                                                                                                                                                                  Jung
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                                                                                                                                                                                                   Lee
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The present sequence represents the human angiostatin protein. It is derived from the plasminogen protien, and comprises amino acids

Claim 1; Fig 10; 72pp; English.

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RESULT 11
AAY79226
ID AAY79
XX AAY9
AC AAY79
XX 19-JU
XX Angio
XX Angio
XX Angio
XX Angio
XX Homo
XX Homo
XX Homo
XX Homo
XX 1-euka
XX 1-euka
XX 1-euka
XX WO200
PM WO200
PM WO200
PM WO200
PM WO200
XX Homo
XX Homo
XX WO200
XX WPI;
XX New apri leuke
PT leuke
PT leuke
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CC amino acids 101-354. Angiostatin and greenstatin are used as thrombolytic factors and angiogenesis inhibitory proteins. Angiostatin CC contains the kringle 1-4 region of plasminogen, and greenstatin contains the kringle 1-4 region of plasminogen, and greenstatin contains CC the kringle 1-3 region of plasminogen. As both proteins contain a high CC number of disulphide bonds, they are difficult to purify. The CC specification describes a method for the purification of such CC anglogenesis inhibitory proteins. The method comprises solubilising CC the proteins, produced as inclusion boddles in Escherichia coli and CC refolding the solubilised fraction in buffer containing urea and CC glutathione. The angiogenesis inhibitory proteins specifically inhibit CC proliferation of vascular endothelial cells, but not that of con-endothelial cancers or normal cells. The angiogenesis inhibitory concerns are used to suppress angiogenesis, specifically for treating CC cancers (e.g. of lung, skin and brain) or ophthalmic diseases (e.g. glaucoma and diabetic retinopathy), but also arthritis and psoriasis.
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Best Local S
Matches 70
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAY79226;
                                                    New angiogenesis inhibitors useful for treating solid leukemias, tumor metastasis, benign tumor, rheumatoid psoriasis and ocular angiogenic diseases .
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               snake venom; cobra; antimetastatic; cytostatic; antitumour
prostate cancer; breast cancer; colon cancer; lung cancer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              19-JUN-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAY79226 standard;
                                                                                                                                                                                                                                                  20-AUG-1998;
                                                                                                                                                                                                                                                                                    19-AUG-1999;
                                                                                                                                                                                                                                                                                                                         02-MAR-2000
                                                                                                                                                                                                                                                                                                                                                              WO200010506-A2
                                                                                                                                                                                                                                                                                                                                                                                                                     Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Angiogenesis inhibitor; plasminogen; human;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Angiogenesis inhibitor obtained by plasminogen cleavage.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             leukaemia; metastasis; contraceptive; therapy
                                                                                                                                                                                                           (UYVE-) UNIV VERMONT & STATE AGRIC COLLEGE.
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G
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          sapiens.
                                                                                                                                   2000-246485/21.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SGKQPWCYTTDPCVRWEYCNLTQCSETES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SPVVQDCYHGDGRSYRGISSTTVTGRTCQSWSSMIPHWHQRTPENYPNAGLTENYCRNPD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ADKGPWCFTTDPSVRWEYCNLKKCSGTEA 361
                                                                                                                                                                    Jenny NS;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                369 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                  98US-0097244.
                                                                                                                                                                                                                                                                                      99WO-US18877
                                                                                                                                                                                                                                                                                                                                                                                                                     Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                   /note- "N-glycosylated"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           78.5%;
78.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             374
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Pred. No. 3e-31;
8; Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        K4 protease;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          11;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      antitumour; tumour;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                tumors,
arthritis,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0
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AAY79225
ID AAY79
XX AAY79225
AC AAY79
XX 19-JU
XX Angio
XX Angio
XX Angio
XX Angio
XX Angio
XX Angio
XX Homo
XX Homo
XX Key
FH Modif
FT Modif
FT MOdif
FT MO200
XX O2-MA
XX 19-AU
XX 19-AU
XX 19-AU
XX 19-AU
XX MANN

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     snake venom; cobra; antimetastatic; cytostatic; antitumous
prostate cancer; breast cancer; colon cancer; lung cancer;
leukaemia; metastasis; contraceptive; therapy.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               rheumatoid arthritis; psoriasis; ocular angiogenic diseases; myocardial angiogenesis; plaque neovascularization; telangiectasia; haemophiliac joints; angiofibroma; wound granulation; excessive or abnormal stimulation of endothelial cells; and as birth control agents by preventing vascularization required for embryo implantation. The inhibitors are administered also to extend the dormancy of micrometastases and to stabilize any residual primary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAY79225;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAY79225 standard;
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New angiogenesis inhibitors useful for treating solid tumors,
                                                       WPI; 2000-246485/21
                                                                                                                           Mann KG,
                                                                                                                                                                                                                                                   20-AUG-1998;
                                                                                                                                                                                                                                                                                                             19-AUG-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                     WO200010506-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Angiogenesis inhibitor; plasminogen; human; K4 protease;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Angiogenesis inhibitor obtained by plasminogen cleavage.
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                                                                                                                                                                                     (UYVE-) UNIV VERMONT & STATE AGRIC COLLEGE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Local Similarity
nes 70; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           274
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               334 ADKGPWCFTTDPSVRWEYCNLKKCSGTEA 362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             62
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SGKQPWCYTTDPCVRWEYCNLTQCSETES 90
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SPVVQDCYHGDGRSYRGISSTTVTGRTCQSWSSMIPHWHQRTPENYPNAGLTENYCRNPD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TPVVQDCYHGDGQSYRGTSSTTTTGKKCQSWSSMTPHRHQKTPENYPNAGLTMNYCRNPD
                                                                                                                        Jenny NS;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              374 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (first entry)
                                                                                                                                                                                                                                                   98US-0097244
                                                                                                                                                                                                                                                                                                                 99WO-US18877
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /note-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             78.5%;
78.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   "N-glycosylated"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          375
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 423; DB 21;
Pred. No. 3.1e-31;
8; Mismatches 11;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                11;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          antitumour; tumour;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 374;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            protease and plasmin. The K4 protease cleaves native plasminogen following amino acid residue 452, with little or no disruption of the first 4 plasminogen kringles. Plasmin cleaves between residues 77 and 78 of human plasminogen. Thus, the present protein spans amino acid residues 77-451 of plasminogen. The angiogenesis of inhibitors obtained from plasminogen can be used to inhibit tumour growth in a mammal, preferably human. They are useful for treating angiogenesis-associated diseases such as: solid tumours, prostate cancer, breast cancer, colon cancer and lung cancer (claimed); blood-borne tumors such as leukaemia; metastasis; benign tumours; rheumatoid arthritis; psoriasis; ocular angiogenic diseases; myocardial angiogenesis; plaque neovascularization; telangiectasia; haemophiliac joints; angiofibroma; wound granulation; excessive or apents by preventing vascularization required for embryo implantation. The inhibitors are administered also to extend the formancy of micrometastases and to stabilize any residual primary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Matches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
                                                                                                        08-MAR-1996;
26-APR-1995;
22-FEB-1996;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 The present sequence represents a preferred angiogenesis inhibitor of the invention that is obtained by cleavage of human plasminogen with spitting cobra (Naja nigricollis nigricollis) venom K4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           leukemias, tumor metastasis, benign tumor, rheumatoid arthritis, psoriasis and ocular angiogenic diseases
                WPI; 1996-518662/51
                                             Cao Y,
                                                                                                                                                                    26-APR-1996;
                                                                                                                                                                                                                                   WO9635774-A2
                                                                                                                                                                                                                                                              Homo sapiens
                                                                                                                                                                                                                                                                                               macular
                                                                                                                                                                                                                                                                                                            angiostatin;
                                                                                                                                                                                                                                                                                                                                          Human kringle 1-4BKLS
                                                                                                                                                                                                                                                                                                                                                                          22-JUN-1997
                                                                                                                                                                                                                                                                                                                                                                                                         AAW07579;
                                                                                                                                                                                                                                                                                                                                                                                                                                      AAW07579 standard; protein; 378
                                                                                                                                                                                                   14-NOV-1996
                                                                           (CHIL-)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              275 TPVVQDCYHGDGQSYRGTSSTTTTGKKCQSWSSMTPHRHQKTPENYPNAGLTMNYCRNPD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  335 ADKGPWCFTTDPSVRWEYCNLKKCSGTEA 363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             62 SGKOPWCYTTDPCVRWEYCNLTOCSETES 90
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        70;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2 SPVVQDCYHGDGRSYRGISSTTVTGRTCQSWSSMIPHWHQRTPENYPNAGLTENYCRNPD 61
                                              Folkman MJ,
                                                                           CHILDRENS MEDICAL CENT
                                                                                                                                                                                                                                                                                             degeneration;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       375
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                             plasminogen; kringle; angiogenesis; cancer; arthritis;
neration; diabetic retinopathy.
                                                                                                                                                                                                                                                                                                                                                                         (first entry
                                                                                                        96US-0612788.
95US-0429743.
96US-0605598.
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                                                                                                                                                                      96WO-US05856
                                             Lin J, Oreilly MS,
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78.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         8; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 423; DB 21;
Pred. No. 3.1e-31;
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                                                Sim
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Disclosure; Figure 2; 100pp; English

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RESULT 14
AAB16450
ID AAB16450
AC AAB16
XX HOMO
XX HO
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Best Local Similarity
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New angiogenesis-inhibiting protein receptors, useful in methods for treating diseases and processes that are mediated by angiogenesis, such as solid tumours, psoriasis, scleroderma and myocardial angiogenesis -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Angiogenesis-inhibiting protein receptor; angiogenesis; angiostatin; endostatin; plasminogen; laminin; treatment, wound healing; solid tumour; psoriasis; scleroderma; myocardial angiogenesis; Crohn's disease; cerebral collateral; arteriovenous malformation; rubeosis; cancer; diabetic retinopathy; arthritis; wound healing; peptic ulcer; Helicobacter related disease; fracture; cat scratch fever.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Human angiostatin protein sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              27-OCT-2000
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAB16450 standard; Protein;
                                                                                                                                                                     WPI; 2000-412290/35.
                                                                                                                                                                                                                                                MacDonald NJ,
                                                                                                                                                                                                                                                                                                                                                                                                             04-DEC-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            06-DEC-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WO200032631-A2
                                                                                                                                                                                                                                                                                                                              (ENTR-) ENTREMED INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      339 ADKGPWCFTTDPSVRWEYCNLKKCSGTEA 367
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   279
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (first entry)
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                                                                                                                                                                                                                                                Sim KL;
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78.7%;
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Pred. No. 3
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3.1e-31;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local S
Matches 70
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Human; angiostatin; endostatin; angiogenesis; cancer; metastasis; psoriasis; scleroderma; Crohn's disease; corneal disease; retinopathy; arthritis; wound healing; Helicobacter pylori; peptic gene therapy; angiostatin antagonist; endostatin antagonist; antiangiogenic; cytostatic; antiarrhritic; antiinflammatory; cerebroprotective; antidiabetic; virucide; antipyretic; vulnerary;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Human angiostatin protein.
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   Sim KL,
                                                                                                                              02-JUN-2000; 2000US-209065P.
08-MAY-2001; 2001US-289387P.
                                                                                                                                                                                                                                    04-JUN-2001; 2001WO-US17947
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78.7%;
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Pred. No. 3.1e-31;
8; Mismatches 11
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Search completed: January 12, 2004, 17:23:21 Job time: 37.2632 secs
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                                                                                                                                                                                                                                                                                                                                                                                                               The present invention relates to methods of regulating angiogenesis in an individual by administering an angiogenesis regulating composition comprising a tropomyosin binding compound or an actin disrupting compound. The compositions are useful for treating diseases and processes mediated by angiogenesis including haemangioma, solid tumours, blood bourne tumours, leukaemia, metastasis, Crohn's disease, coronary or cerebral collaterals, arthritis, diabetic newscularisation, macular degeneration, wound healing, Helicobacter related diseases, ovulation, menstruation, and cat scratch fever. The present sequence is a protein described in the exemplification of the invention.
                                                                                                                                                                                                                                                                                                                                                                        Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Regulating angiogenesis and treatment of angiogenesis-mediated diseases, e.g. hemangioma, tumors or cancer, by administering a tropomyosin binding compound or actin disrupting compound -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Disclosure; Fig 2; 95pp; English.
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                                                                                         339 ADKGPWCFTTDPSVRWEYCNLKKCSGTEA 367
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                                                                                                                         62 SGKQPWCYTTDPCVRWEYCNLTQCSETES 90
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Result
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Maximum Match 100%
Listing first 45 summaries
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1: /cgn2_6/ptodata/1/pubpaa/US07_PUBCOMB.pep:*

2: /cgn2_6/ptodata/1/pubpaa/PCT NEW PUB.pep:*

3: /cgn2_6/ptodata/1/pubpaa/US06_NEW PUB.pep:*

4: /cgn2_6/ptodata/1/pubpaa/US07_NEW PUB.pep:*

5: /cgn2_6/ptodata/1/pubpaa/US07_NEW PUB.pep:*
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Cgn2_6/ptodata/1/pubpaa/USOB_NEW PUB .pep: */
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Cgn2_6/ptodata/1/
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     10 US-09-870-759-126

2 US-09-751-708A-126

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13 US-09-873-675-1

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15 US-10-131-241-42

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Sequence 126, App
Sequence 42, Appl
Sequence 42, Appl
Sequence 42, Appl
Sequence 1, Appl
Sequence 1, Appl
Sequence 42, Appl
Sequence 42, Appl
Sequence 4, Appli
Sequence 8, Appli
Sequence 4, Appli
Sequence 5, Appli
Sequence 6, Appli
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45	44	43	42	41	40	39	38	37	36	35	34	33	32	<u>3</u> 1	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16
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US-10-402-364-52	US-10-402-364-23	US-10-267-137-9	US-09-335-325-23	US-09-761-120-23	US-09-753-064-5	US-10-131-241-1	US-10-402-364-1	US-09-335-325-1	US-09-873-676-81	US-09-761-120-1	US-09-788-142-1	US-10-402-364-46	US-09-761-120-46	US-10-131-241-41	US-10-402-364-41	US-09-335-325-41	US-09-761-120-41	US-10-292-418-25	US-10-292-418-40		-10-157-	US-10-131-241-40	402-	US-09-335-325-40	0-4	US-10-193-656-2	US-10-237-144-1	US-09-946-893-2	US-10-304-287-1
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ALIGNMENTS

US-09-870-759-126

; Sequence 126, Application US/09870759; Patent No. US20020177551A1; GENERAL INFORMATION:

FOR TREATMENT OF NEOPLASTIC DISEASE

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APPLICANT: TERMAN, David S
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR
FILE REFERENCE: 870759
CURRENT APPLICATION NUMBER: US/09/870,759
CURRENT FILING DATE: 2002-01-14
PRIOR APPLICATION NUMBER: US 60/208,128
PRIOR APPLICATION NUMBER: US 60/208,128
PRIOR FILING DATE: 2000-05-30
NUMBER OF SEQ ID NOS: 166
SOFTWARE: Patentin version 3.1
SEQ ID NO 126
LENGTH: 1169
TYPE: DPM
RESULT 2
US-09-751-708A-126
; Sequence 126, Application US/09751708A
; Publication No. US20030157113A1
; GENERAL INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                       ; TYPE: PRT; ORGANISM: Homo sapiens US-09-870-759-126
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Matches 91
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GENERAL INFORMATION:
APPLICANT: Folkman, M. Judah
APPLICANT: Folkman, M. Judah
APPLICANT: O'Reilly, Michael
TITLE OF INVENTION: Nucleic Acids Encoding Kr.
FILE REFERENCE: 05940-0151 (43171-252068)
CURRENT APPLICATION NUMBER: US/09/761,120
CURRENT FILING DATE: 2001-01-16
PRIOR APPLICATION NUMBER: 09/309,821
PRIOR APPLICATION NUMBER: 09/309,821
PRIOR FILING DATE: 1997-05-11
PRIOR APPLICATION NUMBER: 09/866,735
PRIOR FILING DATE: 1997-05-30
NUMBER OF SEQ ID NOS: 47
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Sequence 42, Application US/10402364
Publication No. US20040002459A1
GENERAL INFORMATION:
APPLICANT: O'Reilly, Michael
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CURRENT FILING DATE: 2002-10-15
PRIOR APPLICATION NUMBER: US 60/173,371
PRIOR FILING DATE: 1999-12-28
NUMBER OF SEQ ID NOS: 166
SOFTWARE: PATENTIN VERSION 3.1
SEQ ID NO 126
LENGTH: 1169
TYPE TOTAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SOFTWARE: PatentIn version 3.0
SEQ ID NO 42
SENGTH: 368
TYPE: PRT
ORGANISM: Homo sapiens
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TITLE OF INVENTION: COMPOS
FILE REFERENCE: 751708
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TYPE: PRT
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                  FEATURE:
NAME/KEY: misc_feature
OTHER INFORMATION: Kringle 1-4 BKLS
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                                                                                                                                                                                                                                                                                                                                                      Local
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                                                                                                                                                                 329 ADKGPWCFTTDPSVRWEYCNLKKCSETEA 357
                                                                                                                                                                                                                                                  269 TPVVQDCYHGDGQSYRGTSSTTTTGKKCQSWSSMTPHRHQKTPENYPNAGLTMNYCRNPD
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                                                                                                                                                                                                                                                                             2 SPVVQDCYHGDGRSYRGISSTTVTGRTCQSWSSMIPHWHQRTPENYPNAGITENYCRNPD
                                                                                                                                                                                                                                                                                                                                                    9.8%;
Similarity 79.8%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            100.0%; Score 539; DB 12; 100.0%; Pred. No. 1.1e-49;
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                                                                                                                                                                                                                                                                                                                                                    Score 430; DB 9
Pred. No. 2e-38;
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                                                                                                                                                                                                                                                                                                                                                                         DB 9;
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                                                                                                                                                                                                                                                                                                                                     10;
                                                                                                                                                                                                                                                                                                                                                                         Length 368
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PRIOR FILING DATE: 2001-01-16
PRIOR PPLICATION UMBER: 09/309,821
PRIOR FILING DATE: 1999-05-11
PRIOR APPLICATION NUMBER: 08/866,735
PRIOR FILING DATE: 1997-05-30
PRIOR FILING DATE: 1997-05-30
NUMBER OF SEQ ID NOS: 52
SOFTWARE: Patentin version 3.1
                                                                                                                                                                                                                                               US-10-292-418-11
                                                                                                                                                                                                                                                                                                                        APPLICANT: Li, Yue
APPLICANT: Cillie, Stephen D
APPLICANT: Gillie, Stephen D
TITLE OF INVENTION: Expression and Export of Angiogenesis Inhibitors as
TITLE OF INVENTION: Immunofusins
TITLE OF INVENTION: Immunofusins
TILE REFERENCE: LEX-006C1
CURRENT APPLICATION NUMBER: US/10/292,418
CURRENT FILING DATE: 2002-11-12
PRIOR APPLICATION NUMBER: 09/383,315
PRIOR APPLICATION NUMBER: 09/383,315
PRIOR APPLICATION NUMBER: US 60/097,883
PRIOR FILING DATE: 1998-08-25
PRIOR FILING DATE: 1998-08-25
NUMBER OF SEQ ID NOS: 54
SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 11
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Best Local S
Matches 71
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LENGTH: 368
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Publication No. US20030139365A1
                                                                                                                                                                                                      Query Match
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TITLE OF INVENTION: Nucleic Acids Encoding Kringle 1-5 Region Fragments of Plasminoger
FILE REFERENCE: 05213-2151 (43170-252068)
CURRENT APPLICATION NUMBER: US/10/402,364
CURRENT FILING DATE: 2003-03-28
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                                                                                                                                                                                                                                                                                        LENGTH:
TYPE: PR
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FEATURE:
NAME/KBY: misc_feature
OTHER INFORMATION: Kringle 1-4 BKLS
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                                                                                                                                                                                  Local
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335 ADKGPWCFTTDPSVRWEYCNLKKCSGTEA 363
                                                                               275 TPVVQDCYHGDGQSYRGTSSTTTTGKKCQSWSSMTPHRHQKTPENYPNAGLTMNYCRNPD
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                                                                                                                    2 SPVVQDCYHGDGRSYRGISSTTVTGRTCQSWSSMIPHWHQRTPENYPNAGLTENYCRNPD
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78.7%;
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Pred. No. 2e-38;
                                                                                                                                                               Score 423; DB 12;
Pred. No. 1.1e-37;
8; Mismatches 11;
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Patent No. US20020077289A1
GENERAL INFORMATION:
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SEQ ID NO 1
LENGTH: 378
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ORGANISM: Homo sapiens
-09-873-676-1
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APPLICANT: MacDonald, Nicholas J.
APPLICANT: Sim, Kim L.
TITLE OF INVENTION: Anglostatin and Endostatin Binding Proteins and Methods of Use
FILE REFERENCE: 05213-0378 (43170-259333)
CURRENT APPLICATION NUMBER: US/09/873,676
CURRENT FILING DATE: 2001-06-04
PRIOR APPLICATION NUMBER: US 60/209,065
PRIOR FILING DATE: 2000-06-02
PRIOR FILING DATE: 2000-05-02
PRIOR APPLICATION NUMBER: US 60/289,387
PRIOR APPLICATION NUMBER: US 60/289,387
PRIOR FILING DATE: 2001-05-08
NUMBER OF SEQ ID NOS: 123
                                                                                                                                                                                        COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
OPERATING SYSTEM: PC-DOS/MS-DOS
OPERATING SYSTEM: PC-DOS/MS-DOS
OPERATION STATE:
SOFTWARE: Patentin Release #1.0, Ver
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/335,325
FILING DATE: 17-Jun-1999
CLASSIFICATION: CUBERD: US/08/610,788
PRIOR APPLICATION DATA:
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ATTORNBY/AGENT INFORMATION:
NAME: Warren, William L,
REGISTRATION NUMBER: 36,714
REFERENCE/DOCKET NUMBER: 05213-0126
TELECOMMUNICATION INFORMATION:
TELEPHONE: 404-818-3700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Cao, Yihai
Sim, B. Kim Lee
TITLE OF INVENTION: Angiostatin Fragments and Method of Use
NUMBER OF SEQUENCES: 45
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CORRESPONDENCE ADDRESS:
ADDRESSEE: Jones & Askew
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                                                                                                                                                  APPLICATION NUMBER: US/08/612,788 FILING DATE: <Unknown>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CITY: Atlanta
STATE: Georgia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STREET: 191 Peachtree Street, 37th Floor
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78.7%;
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Pred. No. 1
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RESULT 9
US-10-304-287-7
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                                                                                                                                                                                                                                                                                                                                            ; TYPE: PRT; ORGANISM: Homo sapiens US-10-131-241-42
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SEQ ID NO 42
LENGTH: 378
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                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity
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Best Local Similarity 78.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRIOR APPLICATION NUMBER: US 09/413,049
PRIOR FILING DATE: 1999-10-06
PRIOR APPLICATION NUMBER: US 09/316,802
PRIOR FILING DATE: 1999-05-21
PRIOR APPLICATION NUMBER: US 60/086,586
PRIOR FILING DATE: 1998-05-22
NUMBER OF SEQ ID NOS: 65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: Holaday, John W.
APPLICANT: Fortier, Anne H.
TITLE OF INVENTION: Compositions and Methods for Inhibiting Endothelial Cell Prolifers
TITLE OF INVENTION: Compositions and Methods for Inhibiting Endothelial Cell Prolifers
TITLE OF INVENTION: and Regulating Angiogenesis Using Cancer Markers
FILE REFERENCE: 05213-0344 43170-271565
CURRENT APPLICATION NUMBER: US/10/131,241
CURRENT FILING DATE: 2002-07-22
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SEQUENCE DESCRIPTION: SEQ ID NO: 42:
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                                                                                                                                                                       279 TPVVQDCYHGDGQSYRGTSSTTTTGKKCQSWSSMTPHRHQKTPENYPNAGLTMNYCRNPD 338
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                                                                                                             62 SGKQPWCYTTDPCVRWEYCNLTQCSETES 90
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                                                                                                                                                                                               2 SPVVQDCYHGDGRSYRGISSTTVTGRTCQSWSSMIPHWHQRTPENYPNAGLTENYCRNPD 61
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                                                                                                                                                                                                                                                            70; Conservative
                                                                                      ADKGPWCFTTDPSVRWEYCNLKKCSGTEA 367
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78.7%;
                                                                                                                                                                                                                                                       Score 423; DB 15;
Pred. No. 1.2e-37;
8; Mismatches 11;
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Pred. No: 1.2e-37;
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; Sequence 7, Application US/10304287; Publication No. US20030083234A1

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NUMBER OF SEQ ID NOS: 8
; SOFTWARE: Microsoft Word
; SEQ ID NO 8
; LENGTH: 394
; TYPE: PRT
ORGANISM: mammalian
US-10-304-287-8
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                                                                                                                                                             RESULT 11
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Sequence 4, Application US/09946893
Patent No. US20020072494A1
GENERAL INFORMATION:
APPLICANT: Cao, Yihai
APPLICANT: Cao, Yihai
TITLE OF INVENTION: Materials and methods relating to endothelial cell growth
TITLE OF INVENTION: inhibitors
FILE REFERENCE: Mewburn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 8, Application US/10304287
Publication No. US20030083234A1
GENERAL INFORMATION:
APPLICANT: Waisman, David M.
APPLICANT: Kwon, Mijung
TITLE OP INVENTION: Annt-angiogenesis methods, compositions and uses therefor FILE REFERENCE: ME02-001
CURRENT APPLICATION NUMBER: US/10/304,287
CURRENT FILING DATE: 2002-11-26
PRIOR APPLICATION NUMBER: US 60/333,866
PRIOR FILING DATE: 2001-11-28
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Best Local
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                                                                                                                                                                                                                          335 ADKGPWCFTTDPSVRWEYCNLKKCSGTEA 363
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llarity 78.7%;
Conservative
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78.7%;
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Pred. No. 1.3e-37;
B; Mismatches 11;
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Pred. No. 1.2e-37;
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; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-946-893-4
                                       RESULT 13
US-09-946-893-8
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LENGTH: 569
TYPE: PRT
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Patent No. US20020072494A1
GENERAL INFORMATION:
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CURRENT FILING DATE: 2001-09-05
PRIOR APPLICATION NUMBER: US 60/230,893
PRIOR FILING DATE: 2000-09-05
NUMBER OF SEQ ID NOS: 11
SOFTWARE: Patentin Ver. 2.1
SEQ ID NO 4
Sequence 8, Application US/09946893
Patent No. US20020072494A1
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Best Local Similarity
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Best Local
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TITLE OF INVENTION: Materials and methods relating to endothelial cell growth
TITLE OF INVENTION: inhibitors
FILE REFERENCE: Mewburn
CURRENT APPLICATION NUMBER: US/09/946,893
CCURRENT FILING DATE: 2001-09-05
PRIOR APPLICATION NUMBER: US 60/230,893
PRIOR FILING DATE: 2000-09-05
NUMBER OF SEQ ID NOS: 11
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Pred. No. 1.5e-37;
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Pred. No. 1.9e-37;
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GENERAL INFORMATION:
APPLICANT: Cao, Yihad
TITLE OF INVENTION: Materials and methods relating to endothelial cell growth
TITLE OF INVENTION: inhibitors
FILE REFERENCE: Memburn
CURRENT APPLICATION NUMBER: US/09/946,893
CURRENT FILING DATE: 2001-09-05
FRIOR APPLICATION NUMBER: US 60/230,893

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US-09-946-893-6
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Sequence 1, Application US/09967386
PATENT NO. US20020159992A1
GENERAL INFORMATION:
APPLICANT: Abbott Laboratories
APPLICANT: Henkin, Jack
APPLICANT: Davidson, Donald J.
TITLE OF INVENTION: ANTIANGIOGENIC POLYPEPTIDES AND METHODS
TITLE OF INVENTION: FOR INHIBITING ANGIOGENESIS
FILE REFERENCE: 6738.US.02
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LENGTH: 576
TYPE: PRI
TYPE: PRI
ORGANISM: Artificial Sequence
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APPLICANT: Cao, Yihad
TITLE OF INVENTION: Materials and methods relating to endothelial cell growth
TITLE OF INVENTION: inhibitors
FILE REFERENCE: Mewburn
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Best Local Similarity
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Patent No. US20020072494A1
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Best Local Similarity
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LENGTH: 571
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CURRENT FILING DATE: 2001-09-05
PRIOR APPLICATION NUMBER: US 60/230,893
PRIOR FILING DATE: 2000-09-05
NUMBER OF SEQ ID NOS: 11
SOFTWARE: Patentin Ver. 2.1
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NUMBER OF SEQ ID NOS: 11
SOFTWARE: Patentin Ver. 2.1
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ORGANISM: Artificial Sequence
FEATURE:
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                                                                                                                                                                                                                                                                                   431 ADKGPWCFTTDPSVRWEYCNLKKCSGTEA 459
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Pred. No. 1.9e-37;
8; Mismatches 11
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Search completed: January 12, Job time: 27.6842 secs
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                                                                                                                                                                                                                                                  ; TYPE: PRT ; ORGANISM: Homo sapiens US-09-967-386-1
                                                                                                                                                                                                                                                                                                              CURRENT APPLICATION NUMBER: US/09/967,386
CURRENT FILING DATE: 2001-09-26
PRIOR APPLICATION NUMBER: US 60/236,550
PRIOR FILING DATE: 2000-09-29
NUMBER OF SEQ ID NOS: 7
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 1
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Best Local (
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                                                                                                                                                                                                                                                                                                ENGTH: 791
                                                                                                                         352 TPVVQDCYHGDGQSYRGTSSTTTTGKKCQSWSSMTPHRHQKTPENYPNAGLTMNYCKNPD 411
                                                             412 ADKGPWCFTTDPSVRWEYCNLKKCSGTEA 440
                                                                               ch 78.5%; 1 Similarity 78.7%; 70; Conservative
                2004, 17:29:39
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                                                                                                                                                                                                     Score 423; DB 10;
Pred. No. 2.6e-37;
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Minimum DB
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Perfect score:
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Maximum Match 100%
Listing first 45 summaries
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   and is derived
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                                                                                                                                                                                                                                                                                                                                         d. No. is the number of results predicted by chance to have a
re greater than or equal to the score of the result being printed,
is derived by analysis of the total score distribution.
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  length: 0
length: 2000000000
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Match
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1: /cgn2_6/ptodata/1/iaa/5A_COMB.pep:*

2: /cgn2_6/ptodata/1/iaa/5B_COMB.pep:*

3: /cgn2_6/ptodata/1/iaa/6A_COMB.pep:*

4: /cgn2_6/ptodata/1/iaa/PCTUS_COMB.pep:*

5: /cgn2_6/ptodata/1/iaa/PCTUS_COMB.pep:*
  Copyright
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  GenCore version 5.1.6 (c) 1993 - 2004 Compugen Ltd.
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US-08-991-761A-11
US-09-377-250-3
US-09-377-250-2
US-08-612-788-42
US-09-066-028-42
US-09-335-325-42
US-09-377-250-1
US-09-377-250-1
US-09-377-250-4
US-08-469-486-54
US-08-469-688-54
US-08-813-995-1
US-08-813-995-1
US-08-8132-154-1
US-08-131-955-1
US-08-991-761A-6
US-08-991-761A-6
US-08-991-761A-7
US-08-97-854-603-2
US-08-12-761A-7
US-08-97-761A-7
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US-08-750-711-1
US-08-750-711-1
US-08-612-786-40
US-09-08-612-786-40
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Patent No.
Sequence
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Sequence
Sequence 1, Appli
Sequence 5, Appli
Patent No. 5200340
Sequence 1, Appli
Sequence 7, Appli
Sequence 40, Appli
Sequence 40, Appl
                                                                              Sequence 11, Appl
Sequence 2, Appli
Sequence 2, Appli
Sequence 42, Appl
Sequence 42, Appl
Sequence 1, Appli
Sequence 1, Appli
Sequence 1, Appli
Sequence 54, Appl
Sequence 54, Appli
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371 TPVVQECYHGDGQSYRGTSSTTTTGKKCQSWSSMTPHWHEKTPENFPNAGLTWNYCHNPD

61 430

SPVVQDCYHGDGRSYRGISSTTVTGRTCQSWSSMIPHWHQRTPENYPNAGLTENYCRNPD

Query Ma Best Loo Matches	RESULT US-08-9 Seque: Seque: Paten Faten Ap	44444 800000000000000000000000000000000
/ Match Local Similarity nes 68; Conserva	11 91-761A-11 nce 11, Appl t No. 657660 RAL INFORMAT PLICANT: So PLICANT: TW PLICATION MEDIUM TYPE: CO COUNTRY: Denve STATE: CO SOPTWARE: P PLICATION MEDIUM TYPE: COMPUTER: TAPPLICATION PILING DATE: COMPUTER: TOOM REFERENCE / DO REFERENCE / DO REFERENCE / DO REFERENCE / DO REFERENCE / TOOM REFERENCE / T	405 75.1 402 74.6 388 72.0 388 72.0
78.8%; Sc 77.3%; Pr tive 10;	/08999 hen przen przen thodd iosta iosta St., St., St., St., St., St., St., St.,	790 4 US-09-1 378 2 US-08-0 378 3 US-09-1 378 4 US-09-1 398 4 US-09-1 812 1 US-08-1 812 1 US-08-1 812 2 US-08-1 812 2 US-08-1 812 2 US-08-1 812 2 US-08-1 812 3 US-09-1 812 4 US-09-1 812 4 US-09-1 812 4 US-09-1 812 4 US-09-1
ore 425; DB 4 ed. No. 1.3e-3 Mismatches	Compositic 3500 3500 61A	09-348-953-2 08-991-761A-13 08-612-788-41 09-066-028-41 09-335-325-41 09-192-012-2 08-451-932-1 08-451-932-1 08-452-260-1 08-356-785-1 08-612-788-1 08-612-788-1 08-612-788-1 08-66-028-1 08-866-028-1 09-192-012-3 09-335-325-1 08-991-761A-12
; Length 810 17; 10; Indels	ns for Generating	
) 0; Ga	i.ing	Sequence 2, Sequence 41, Sequence 41, Sequence 41, Sequence 2, Sequence 1, Sequence 1,
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62

431 ADKGPWCFTTDPSVRWEYCNLKKCSGTE 458

SGKQPWCYTTDPCVRWEYCNLTQCSETE

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FEATURE:
NAME/KEY: MOD RES
LOCATION: (265)
OTHER INFORMATION: Xaa = Gln or Glu
US-09-377-250-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ; FEATURE:
, NAME/KEY: MOD RES
; LOCATION: (264)
; OTHER INFORMATION: X88 = Gln or
US-09-377-250-3
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APPLICANT: MANN, KENNETH G.
APPLICANT: SWORDS JENNY, NANCY
APPLICANT: SWORDS JENNY, NANCY
TITLE OF INVENTION: ANGIOGENESIS INHIBITORS AND USERS THEREOF
FILE REFERENCE: 48409/360
CURRENT APPLICATION NUMBER: US/09/377,250
CURRENT FILING DATE: 1999-08-19
NUMBER OF SEQ ID NOS: 5
SOFTWARE: PATENTIN Ver. 2.0
SEQ ID NO 3
LENGTH: 374
                  Query Match
Best Local (
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Best Local Similarity
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Patent No. 6365364
                                                                                                                                                                                                                                                                        SOFTWARE: PatentIn Ver. 2.0 SEQ ID NO 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                    GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 2, Application US/09377250 Patent No. 6365364
  Matches
                                                                                                                                                                                                                                                                                                               FILE REFERENCE: 48409/360
CURRENT APPLICATION NUMBER: US/09/377,250
CURRENT FILING DATE: 1999-08-19
NUMBER OF SEQ ID NOS: 5
                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: MANN, KENNETH G.
APPLICANT: SWORDS JENNY, NANCY
TITLE OF INVENTION: ANGIOGENESIS INHIBITORS AND USERS THEREOF
                                                                                                                                                                 FEATURE: OTHER INFORMATION: angiogenesis inhibitor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FEATURE: OTHER INFORMATION: angiogenesis inhibitor
                                                                                                                                                                                                            TYPE: PRT
ORGANISM: Homo sapiens
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ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                        ENGTH: 375
Local Similarity 78.
1es 70; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        334 ADKGPWCFTTDPSVRWEYCNLKKCSGTEA 362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  274 TPVVQDCYHGDGQSYRGTSSTTTTGKKCQSWSSMTPHRHQKTPENYPNAGLTMNYCRNPD 333
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                70;
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78.5%; Score 423; DB 4; Length 375; 78.7%; Pred. No. 8.8e-38; ative 8; Mismatches 11; Indels
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78.7%;
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Pred. No. 8.8e-38;
8; Mismatches 11
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Patent No.
                                                                                                                                 Matches
                                                                                                                                                 Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATTORNEY/AGENT INFORMATION:
NAME: WATTON, William L.
REGISTRATION NUMBER: 36,714
REFERENCE/DOCKET NUMBER: 0521
TELECOMMUNICATION INFORMATION:
TELEPHONE: 404-818-3700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                   INFORMATION FOR SEQ ID NO: 42:
                                                                                                                                                                                                                                                              MOLECULE AN HYPOTHETICAL: NO STORE: NO STORE N-terminal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COMPUTER READABLE FORM:
MEDLUM TYPE: Floppy disk
COMPUTER: Floppy disk
COMPUTER: LEM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/612,788
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NUMBER OF SEQUENCES: 4
                                                                                                                                                                                                                                 IMMEDIATE SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TITLE OF INVENTION: Angiostatin Fragments and Method of Use NUMBER OF SEQUENCES: 45
                                                                                                                                                                                                                                                                                                                                  TOPOLOGY: 1i
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FILING DATE:
CLASSIFICATION: 514
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CITY: Atlanta
                                                                                                                                                                                                                                                    ORGANISM:
                                                                                                                                                                                                                                                                                                                                                                                  LENGTH: 378 amino acids
TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                    TELEFAX:
                                                                                                                                                                                                                                                                                                                                                                 STRANDEDNESS:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            335 ADKGPWCFTTDPSVRWEYCNLKKCSGTEA 363
339 ADKGPWCFTTDPSVRWEYCNLKKCSGTEA 367
                                                                279 TPVVQDCYHGDGQSYRGTSSTTTTGKKCQSWSSMTPHRHQKTPENYPNAGLITMNYCRNPD 338
                      62 SGKQPWCYTTDPCVRWBYCNLTQCSETES 90
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5. 5837682
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                                                                                 70;
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30303-1769
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        191 Peachtree Street, 37th Floor
                                                                                                                                                                                                                                                                                                                                                                                                                                                      404-818-3799
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Folkman, M. Judah
O'Reilly, Micheal
                                                                                                                                                                                                                                                    Homo sapiens
                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                     linear
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                                                                                                                                                 78.5%;
78.7%;
                                                                                                                                Score 423; DB 2;
Pred. No. 8.9e-38;
8; Mismatches 11
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                                                                                                                                                                    Length 378;
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                                                                                                                                 RESULT 6
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Matches
                                                       Sequence 1, Application US/09206059
Patent No. 6201104
GENERAL INFORMATION:
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MEDIUM TYPE: Floppy disk
COMPUTER: IEM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOPTWARE: PAECHTIN Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/066,028
FILING DATE:
CLASSIFICATION DATA:
APPLICATION NUMBER: 08/612,788
APPLICATION NUMBER: 08/612,788
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                                                                                                                                                                                                                                                                                                                                                                          Query Match
APPLICANT: MacDonald, Nicholas
APPLICANT: Sim, Kim Lee
TITLE OF INVENTION: Angiogenesis-Inhibiting Protein Binding Peptides and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TELEFAX: 404-818-3799
INFORMATION FOR SEQ ID NO: 42:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FILING DATE:
ATTORNEY AGENT INFORMATION:
ATMAME: WATTEN, WILLIAM L.
REGISTRATION NUMBER: 36,714
REFERENCE/DOCKET NUMBER: 0551
TELECOMMUNICATION INFORMATION:
TELEPHONE: 404-818-3700
                                                                                                                                                                                                                                                                                                                                                                                                                                IMMEDIATE SOURCE:
CLONE: K1-4BKLS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FRAGMENT TYPE: N-termina ORIGINAL SOURCE: ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: Cao, Yihai
APPLICANT: Sim, B. Kim Lee
TITLE OF INVENTION: Angiostatin Fragments and Method of Use
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MOLECULE TYPE: protein HYPOTHETICAL: NO ANTI-SENSE: NO
                                                                                                                                                                                                                                                                                                                                  Local Similarity
es 70; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CITY: Atlanta
STATE: Georgia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TYPE: amino acid
STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ZIP: 30303-1769
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ENGTH:
                                                                                                                                                                                         339 ADKGPWCFTTDPSVRWEYCNLKKCSGTEA 367
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                                                                                                                                                                                                                                                                                                 2 SPVVQDCYHGDGRSYRGISSTTVTGRTCQSWSSMIPHWHQRTPENYPNAGLTENYCRNPD 61
                                                                                                                                                                                                                SGKQPWCYTTDPCVRWEYCNLTQCSETES 90
                                                                                                                                                                                                                                                                TPVVQDCYHGDGQSYRGTSSTTTTGKKCQSWSSMTPHRHQKTPENYPNAGLTMNYCRNPD 338
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         378 amino acids
                                                                                                                                                                                                                                                                                                                                    78.5%;
nilarity 78.7%;
Conservative (
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Folkman, M. Judah
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               linear
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         N-terminal
                                                                                                                                                                                                                                                                                                                                     Score 423; DB Pred. No. 8.9e 8; Mismatches
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                                                                                                                                                                                                                                                                                                                                                       ; DB 3; Length 378;
8.9e-38;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 42, Applicati
Patent No. 6521439
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SOFTWARE: PatentIn Ver. 2.0 SEQ ID NO 1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CURRENT APPLICATION NUMBER: US/09/206,059
CURRENT FILING DATE: 1998-12-04
NUMBER OF SEQ ID NOS: 80
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TYPE: PRT
ORGANISM: Homo sapiens
                                                                                                                                                                           TELEPAX: 404-818-3799
INFORMATION FOR SEQ ID NO: 42:
SEQUENCE CHARACTERISTICS:
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                                                                                                                                                                                                                                                                                                                                     APPLICATION NUMBER: US/09/335,325
FILING DATE: 17-Jun-199
CLASSIFICATION: «Unknown»
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US/08/612,788
FILING DATE: «Unknown»
ATTORNEY/AGENT INFORMATION:
                                                                            STRANDEDNESS: <Unknown>
TOPOLOGY: linear
MOLECULE TYPE: protein
                                                                                                                                                                                                                                          TELECOMMUNICATION INFORMATION:
TELEPHONE: 404-818-3700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMPUTER READABLE FORM:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: Folkman, M. Judah
O'Reilly, Micheal
ORIGINAL SOURCE:
                     ANTI-SENSE: NO FRAGMENT TYPE: N-terminal
                                                         HYPOTHETICAL: NO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           339 ADKGPWCFTTDPSVRWEYCNLKKCSGTEA 367
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                                                                                                                                                                                                                                                                                NAME: Warren, William L.
REGISTRATION NUMBER: 36,714
REFERENCE/DOCKET NUMBER: 05
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STATE: Georgia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STREET: 191 Peachtree Street, 37th Floor
                                                                                                                                         TYPE: amino acid
                                                                                                                                                            LENGTH: 378 amino acids
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Pred. No. 8.9e-38;
8; Mismatches 11
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RESULT 9
US-09-377-250-4
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US-09-377-250-1
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COTHER INFORMATION: Xaa = Gln
US-09-377-250-1
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                                                                                                                  Sequence 4, Application US/09377250 Patent No. 6365364 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity 78.,
70; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FILE REFERENCE: 48409/360
CURRENT APPLICATION NUMBER: US/09/377,250
CURRENT FILING DATE: 1999-08-19
NUMBER OF SEQ ID NOS: 5
SOPTWARE: Patentin Ver. 2.0
SEQ ID NO 1
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Best Local Similarity
APPLICANT: MANN, KENNETH G.
APPLICANT: SWORDS JENNY, NANCY
TITLE OF INVENTION: ANGIOGENESIS INHIBITORS AND USERS THEREOF
FILE REFERENCE: 48409/360
CURRENT APPLICATION NUMBER: US/09/377,250
CURRENT FILING DATE: 1999-08-19
NUMBER OF SEQ ID NOS: 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NAME/KBY: MOD RES LOCATION: (53)
OTHER INFORMATION: 1
FEATURE:
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APPLICANT: SWORDS JENNY, NANCY
TITLE OF INVENTION: ANGIOGENESIS INHIBITORS AND USERS THEREOF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ORGANISM: Homo sapiens
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IMMEDIATE SOURCE:
CLONE: K1-4BKLS
                                                                                                                                                                                                                                                                                                              351 TPVVQDCYHGDGQSYRGTSSTTTTGKKCQSWSSMTPHRHQKTPENYPNAGLIMNYCRNPD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       339 ADKGPWCFTTDPSVRWEYCNLKKCSGTEA 367
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                                                                                                                                                                                                                                                                62 SCKOPWCYTTDPCVRWEYCNLTQCSETES 90
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78.7%;
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Pred. No. 1.1e-37;
8; Mismatches 11; Indels
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; NAME/KEY: MOD_RES
; LOCATION: (342)
; OTHER INFORMATION: Xaa =
US-09-377-250-4
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 TELEX: 200154
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 790 amin
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Patent No. 573928
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                                                                                                                                             CLASSIFICATION: 530
PRIOR APPLICATION DATA:
APPLICATION UNMBER: 08/19:
PILING DATE: February 4, 1
ATTORNEY/AGENT INFORMATION:
NAME: Paul T. Clark
REGISTRATION NUMBER: 30,10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LENGTH: 45
TYPE: PRT
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LOCATION: (53)
OTHER INFORMATION: Xaa
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OTHER INFORMATION: plasminogen fragment
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: Etzerodt, Michael
TITLE OF INVENTION: Improved method for the refolding of
TITLE OF INVENTION: proteins
NUMBER OF SEQUENCES: 58
CORRESPONDENCE ADDRESS:
                                                                            REFERENCE/DOCKET NUMBER: 06
TELECOMMUNICATION INFORMATION:
TELEPHONE: 617 542 5070
TELEFAX: 617 542 8906
                                                                                                                                                                                                                                                                          CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/08/469,486
                                                                                                                                                                                                                                                                                                                                                                           ZIP: 02110-2804
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                            MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version
SOFTWARE: #1.25
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                                                                                                                                                                                                                                                                                                                                                                                                                                              CITY: Boston
STATE: Massa
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                                                                                                                                                                                                                                                                FILING DATE:
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amino acid
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                 790 amino acids
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78.7%;
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ry 4, 1994
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Pred. No. 1.1e-37;
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                                                                                                                  ; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-08-469-658-54
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Best Local Similarity /o...
Thes 70; Conservative
                                                     Matches
                                                                   Query Match
Best Local
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                                                                                                                                                                                                                                     INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT:
APPLICANT:
                                                                                                                                                                                                                     SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                 PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/192,060
FILING DATE: February 4, 1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/469,658
FILING DATE: June 5, 1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ZIP: 02110-2804
COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                    REFERENCE/DOCKET NUMBER: 06
TELECOMMUNICATION INFORMATION:
TELEPHONE: 617 542 5070
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TITLE OF INVENTION: IMPROVED TITLE OF INVENTION: PROTEINS
                                                                                                                                                                                                                                                                                                                                                      ATTORNEY/AGENT INFORMATION:
NAME: Paul T. Clark
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NUMBER OF SEQUENCES: 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMPUTER: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version
SOFTWARE: #1.25
IRRENT APPROXIMATE: #1.25
                                                                                                                                                               STRANDEDNESS
                                                                                                                                                                                                                                                                    TELEFAX:
                                                                                                                                                                                                                                                                                  TELEPHONE:
                                                                                                                                                                                                                                                                                                                                    REGISTRATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                     CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                     CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ADDRESSEE:
                                                                                                                                                                                                    ENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 411 ADKGPWCFTTDPSVRWEYCNLKKCSGTEA 439
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 351 TPVVQDCYHGDGQSYRGTSSTTTTGKKCQSWSSMTPHRHQKTPENYPNAGLTMNYCRNPD
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                                                  70;
2 SPVVQDCYHGDGRSYRGISSTTVTGRTCQSWSSMIPHWHQRTPENYPNAGITENYCRNPD 61
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                                                                   Similarity
                                                                                                                                                                                  amino acid
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                                                                                                                                                                                                  790 amino acids
                                                                                                                                                                                                                                                                      617 542 8906
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            225 Franklin Street
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78.7%;
                                                                  78.5%;
78.7%;
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                                                                                                                                                                                                                                                                                                                                    30,162
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                                                                  Score 423; DB 2; Length 790; Pred. No. 2.1e-37;
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Pred. No. 2.1e-37;
                                                    Mismatches
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US-09-131-995-1
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                                                                                                                                                                                                                                                                                                                                                        ; DESCRIPTION: US-08-643-219-1
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                                           Sequence 1, Application US/09131995
Patent No. 5972896
GENERAL INFORMATION:
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                                                                                                                                                                                                                                                                                                                       Query Match
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                                                                                                                                                                                                                                                                                                                                                                                                                                                     INFORMATION FOR SEQ ID NO: SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NAME: Casuto, Dianne
REGISTRATION NUMBER: 40,943
REFERENCE/DOCKET NUMBER: 59
TELECOMMUNICATION INFORMATION:
TELEPHONE: 847-938-3137
APPLICANT: Davidson, TITLE OF INVENTION: TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                        MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CLASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER:
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ATTORNEY/AGENT INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                       TYPE: ami
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OPERATING SYSTEM:
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CITY: Abbott Park
STATE: IL
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                                                                                                                                                                                                                          352 TPVVQDCYHGDGQSYRGTSSTTTTGKKCQSWSSMTPHRHQKTPENYPNAGLTMNYCRNPD
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                                                                                                                                                                                   62 SGKQPWCYTTDPCVRWEYCNLTQCSETES 90
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                                                                                                                                                                                                                                                                                                         Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                   1: 791 amino acids amino acid
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100 Abbott Park Road
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78.7%;
, Donald J.
NOVEL ANTIANGIOGENIC PEPTIDES
AND METHODS FOR INHIBITING ANGIOGENESIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NOVEL ANTIANGIOGENIC PEPTIDES AND METHODS FOR INHIBITING ANGIOGENESIS
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Pred. No. 2.1e-37;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        5940.US.P1
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                                                                                                                                                                                                                                                                                                                        Length 791;
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CORRESPONDENCE ADDRESS:
ADDRESSEE: Abbott Laboratories
STREET: 100 Abbott Park Road

STREET: 100 August Park

USA

NUMBER OF SEQUENCES:

14

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US-08-832-087B-1
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                                                                                                                                                                                                                                                                                        Sequence 1, Application US/08832087B Patent No. 5981494
GENERAL INFORMATION:
APPLICANT: Davidson, Donald J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches
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PRIOR APPLICATION DATA:
APPLICATION NUMBER: US/08/832,087
APPLICATION NUMBER: 08/643,219
APPLICATION NUMBER: 08/643,219
FILING DATE: 06-MAY-1996
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NAME: Casuto, Dianne
REGISTRATION NUMBER: 40,943
REFERENCE/DOCKET NUMBER: 594(
TELECOMMUNICATION INFORMATION:
TELEPHONE: 847-938-3137
TELEFAX: 847-938-2623
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                                                                                                                                                                                                                                APPLICANT: Davidson, Donald J.
TITLE OF INVENTION: NOVEL ANTIANGIOGENIC PEPTIDES
TITLE OF INVENTION: AND METHODS FOR INHIBITING AN
NUMBER OF SEQUENCES: 14
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MOLECULE TYPE:
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LENGTH: 791 amino acid
                                                      COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
                                                                                                                                                CORRESPONDENCE ADDRESS:
ADDRESSEE: Abbott Laboratories
STREET: 100 Abbott Park Road
CITY: Abbott Park
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OPERATING SYSTEM: DOS
SOFTWARE: FastSEQ Version 2.0
CURRENT APPLICATION DATA:
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MEDIUM TYPE: Diskett
COMPUTER: IBM Compatible OPERATING SYSTEM: DOS SOFTWARE: FastSEQ Version
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                                                                                                ZIP: 60064
                                                                                                              COUNTRY:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                  412 ADKGPWCFTTDPSVRWEYCNLKKCSGTEA 440
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Similarity 78.7%;
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    FastSEQ Version 2.0
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                                                                                                                                                                                                                                                    FOR INHIBITING ANGIOGENESIS
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US-08-851-350-1
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APPLICATION:
PILING DATE:
ATTONUEY/AGENT INFORMATION:
ATTONUEY/AGENT INFORMATION:
NAME: Casuto, Dianne
REGISTRATION NUMBER: 40,943
REFERENCE/DOCKET NUMBER: 5940.US.P2
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 1, Application US/08851350
Patent No. 6057122
GENERAL INFORMATION:
APPLICANT: Abbott Laboratories
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
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FILING DATE: 06-MAY-1996
ATTORNEY/AGENT INFORMATION:
NAME: Casuto, Dianne
REGISTRATION NUMBER: 40,943
REFERENCE/DOCKET NUMBER: 5940
TELECOMMUNICATION INFORMATION:
TELEPHONE: 847-938-3137
TELEPHONE: 847-938-2623
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MOLECULE TYPE:
DESCRIPTION: protein
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APPLICATION NUMBER: US/0
FILING DATE: 03-APR-1997
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ADDRESSEE: Abbott Laboratories
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TITLE OF INVENTION: NOVEL ANTIANGIOGENIC PEPTIDES,
TITLE OF INVENTION: POLYNUCLEOTIDES ENCODING SAME AND METHODS
TITLE OF INVENTION: FOR INHIBITING ANGIOGENESIS
                                                                                                                                                                            CLASSIFICATION: 514
PRIOR APPLICATION NUMBER:
                                                                                                                                                                                                                                                                            SOFTWARE: FastSEQ Version 2.0 CURRENT APPLICATION DATA:
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MEDIUM TYPE: Diskette
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OPERATING SYSTEM:
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78.7%;
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Pred. No. 2.1e-37;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 5940.US.P1
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TELEX:

INFORMATION FOR SEQ ID NO: 1:

SEQUENCE CHARACTERISTICS:

LENGTH: 791 amino acids

TYPE: amino acids

TYPE: anino acids

TYPE: anino acids

TYPE: molecule Type:

MOLECULE TYPE:

DESCRIPTION: protein

US-08-851-350-1

Query Match

Best Local Similarity 78.7%; Pred. No. 2.1e-37;

Matches 70; Conservative 8; Mismatches 11; Indels 0; Gaps 0;

Matches 70; Conservative 8; Mismatches 11; Indels 0; Gaps 0;

Matches 70; Conservative 8; Mismatches 11; Indels 0; Gaps 0;

Matches 70; Conservative 8; Mismatches 11; Indels 0; Gaps 0;

Matches 70; Conservative 8; Mismatches 11; Indels 0; Gaps 0;

Matches 70; Conservative 8; Mismatches 11; Indels 0; Gaps 0;

Matches 70; Conservative 8; Mismatches 11; Indels 0; Gaps 0;

Matches 70; Conservative 8; Mismatches 11; Indels 0; Gaps 0;

Matches 70; Conservative 8; Mismatches 11; Indels 0; Gaps 0;

Matches 70; Conservative 8; Mismatches 11; Indels 0; Gaps 0;

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Matches 70; Conservative 8; Mismatches 11; Indels 0; Gaps 0;

Matches 70; Conservative 8; Mismatches 11; Indels 0; Gaps 0;

Matches 70; Conservative 8; Mismatches 11; Indels 0;

Matches 70; Mismatches 11; Indels 0;

Matches 70; Mismatches 11; Indels 0;

Matches 70; Misma
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Run on: January 12, 2004, 17:19:12; Search time 12.0451 Seconds (without alignments) 710.580 Million cell updates/sec

Title: Perfect score: US-10-088-548-6 523 VRQCYHGNGQSYRGTFSTTV...

Scoring table: BLOSUM62

....SIRWEYCNLTRCSDTEGTVV

Gapop 10.0 , Gapext 0.5

283308 segs,

96168682 residues

283308

Total number of hits satisfying chosen parameters:

Minimum DB Maximum DB seq length: 0 length: 2000000000

Post-processing: Minimum Match 0%

Listing first 45 summaries

Maximum Match

100%

Database : PIR_76:* pir2:* pir1:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

29	28	27	26	25	24	23	22	21	20	19	18	. 17	16	15	14	13	12	11	10	9	8	7	6	5	4	ω	2		No.	Result
201.5	204	204.5	205	216.5	237.5	242	246.5	247.5	263	263	268.5	269	272.5	303	354	380	381.5	388	392	400	401	407	413	415	433	444	478	517	Score	
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159	159	159	160	166.5	170	171.5	173	173	174.5	188.5	189	189.5	191.5	193.5	199.5
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t-plasminogen acti	t-plasminogen acti	t-plasminogen acti	u-plasminogen acti	coagulation factor	hepatocyte growth	u-plasminogen acti	t-plasminogen acti	t-plasminogen acti	plasma hyaluronan-	coagulation factor	t-plasminogen acti	plasma hyaluronan-	neurotrophic recep	coagulation factor	thrombin (EC 3.4.2

ALIGNMENTS

apoprotein(a) (EC 3.4.21.-) precursor [validated] - human N;Alternate names: apolipoprotein(a); lipoprotein(a) chain apo(a) C;Species: Homo sapiens (man)

C;Date: 30-Jun-1989 #sequence revision 30-Jun-1989 #text_change 08-Dec-2000 C;Accession: S00657; A28017; A47277; I60906; A47233; I52415; I65286 R;McLean, J.W.; Tomalinson, J.E.; Kuang, W.J.; Eaton, D.L.; Chen, E.Y.; Fless, G Nature 330, 132-137, 1987 Nature 330, 132-137, 132-137, 132-137, 132-137, 132-137, 132-137, 132-137, 132-D.L.; Chen, E.Y.; Fless, G.M.; Scam

A; Molecule type: mRNA

A;Residues: 1-4548 <MCL>
A;Cross-references: GB:X06290; EMBL:X06696; NID:g28619; PIDN:CAA29618.1; PID:g28620
A;Cross-references: GB:X06290; EMBL:X06696; NID:g28619; PIDN:CAA29618.1; PID:g28620
R;EACON, D.L.; Fless, G.M.; Kohr, W.J.; McLean, J.W.; Xu, Q.T.; Miller, C.G.; Lawn, R.M. Proc. Natl. Acad. Sci. U.S.A. 84, 3224-3228, 1987
Proc. Natl. Acad. Sci. U.S.A. 84, 3224-3228, 1987
A;Title: Partial amino acid sequence of apolipoprotein(a) shows that it is homologous to A;Reference number: A28017; MUID:87204109; PMID:3472206
A;Accession: A28017

A;Molecule type: protein A;Residues: 20-21,'P',23-34;177-179,'N',181-186,'T',188-196,'DKG',200;292-314,'W',316-3

X',4396-4401 <EAT>
R;Wade, D.P.; Clarke, J.G.; Lindahl, G.E.; Liu, A.C.; Zysow, B.R.; Meer, K.; Schwartz, Proc. Natl. Acad. Sci. U.S.A. 90, 1369-1373, 1993
A;Title: 5' control regions of the apolipoprotein(a) gene and members of the related pA;Reference number: A47277; MUID:93165698; PMID:7679504
A;Accession: A47277

A;Molecule type: DNA A;Residues: 1-16 <RES> A;Status: preliminary; translation not shown; translated from GB/EMBL/DDBJ

A;Cross-references: GB:L07899; NID:g967973; PID:g967974
R;Malgaretti, N.; Acquati, F.; Magnaghi, P.; Bruno, L.; Pontoglio, M.; Rocchi, M.; Se Proc. Natl. Acad. Sci. U.S.A. 89, 11584-11588, 1992
A;Title: Characterization by Yeast artificial chromosome cloning of the linked apoli

A;Reference number: A47233; MUID:93087573; PMID:1454851 A;Accession: I60906

A;Status: preliminary; translated from GB/EMBL/DDBJ

A; Molecule type: DNA A; Residues: 1-16 < RE2 >

A;Cross-references: GB:M90078; NID:g178786; PIDN:AAA35547.1; PID:g553188 A;Note: apo(a) gene 1 (nomenclature of reference I52415)

A;Status: preliminary; translation not shown; translated from GB/EMBL/DDBJ A; Accession: A47233

A; Molecule type: DNA A; Residues: 1-16 < RE5> A;Cross-references: GB:M90079; NID:g178784; PIDN:AAA35546.1; PID:9553187

Biochemistry 31, 3113-3118, 1992
A;Title: Multiple members of the plasminogen-apolipoprotein(a) gene family associ A;Reference number: IS2415; MUID:92207924; PMID:1554698

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A;Cross-references: GB:M86877; NID:g178780; PIDN:AAB49909.1; PID:g553185
A;Note: apo(a) gene 1 (nomenclature of reference I52415)
A;Accession: I65286
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A;Molecule type: DNA
A;Residues: 1-16 <RE3>
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A;Note: several genes closely linked on chromosome 6 are identical in the first coding
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A; Residues: 1-16 < RE4 >
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;1168-1245/Domain:
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Cross-references: GDB:120699; OMIM:152200
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370-447/Domain: kringle homology <KR4>
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26-903/Domain: kringle homology <KR8>
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                                                                                                                                                                                          Local
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                             4181 GPWCFTMDPSIRWEYCNLTRCSDTEGTVV 4209
                                                                                                                                                                         88;
                                                                                                                                                                                          Similarity
                                                     GPWCFTTDPSIRWEYCNLTRCSDTEGTVV 89
                                                                                                  VRQCYHGNGQSYRGTFSTTVTGRTCQSWSSMTPHRHQRTPENYPNDGLTMNYCRNPDADT 4180
                                                                                                                     VRQCYHGNGQSYRGTFSTTVTGRTCQSWSSMTPHRHQRTPENYPNDGLTMNYCRNPDADT 60
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kringle homology <KR11>
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F;278-355/Domain: kringle homology <KR3>
F;378-000 Domain: kringle homology <KR4>
F;506-583/Domain: kringle homology <KR5>
F;620-697/Domain: kringle homology <KR5>
F;620-697/Domain: kringle homology <KR6>
F;726-803/Domain: kringle homology <KR7>
F;840-917/Domain: kringle homology <KR8>
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C; Species: Homo sapiens (man)
                                                                                                                       A; Molecule type: DNA
A; Residues: 1-16 < MAL1>
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                                                                                                                                                                                                                                                                                                                                         A; Accession: A35229
                                                                                                                                                          A;Status: translated from GB/EMBL/DDBJ
                                                                                                                                                                           A; Accession: I52242
A;Molecule type:
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Best Local
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apolipoprotein(a) (EC 3.4.21.-) - rhesus macaque (fragment)
C;Species: Macaca mulatta (rhesus macaque)
C;Date: 22-Nov-1999 #sequence_revision 22-Nov-1989 #text_change 22-Jun-1999
C;Accession: A32869; A30848
R;Tomlinson, J.E.; McLean, J.W.; Lawn, R.M.
J. Biol. Chem. 264, 5957-5965, 1989
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A;Title: Rhesus monkey apolipoprotein(a). Sequence, evolution,
A;Reference number: A32869; MUID:89174660; PMID:2925643
A;Accession: A32869
                                                                                                                  A;Cross-references: GB:M62890; NID:g190092; PIDN:AAA36454.1; PID:g553613 R;Forsgren, M.; Raden, B.; Israelsson, M.; Larsson, K.; Heden, L.O. FEBS Lett. 213, 254-260, 1987
                                                                                                                                                                                                                                                                                                                                                                                                     A;Residues: 1-810 <PBT>
A;Cross-references: GB:J05286; GB:M34276; NID:gl90064; PIDN:AAA60113.1; PID:g387026
A;Cross-references: GB:J05286; GB:M34276; NID:gl90064; PIDN:AAA60113.1; PID:g387026
A;Experimental source: leukocyte; lung fibroblast
R;Malgaretti, N.; Bruno, L.; Pontoglio, M.; Candiani, G.; Meroni, G.; Ottolenghi, S.;
Biochem. Biophys. Res. Commun. 173, 1013-1018, 1990
Biochem. Biophys. Res. Commun. 173, 1013-1018, 1990
A;Title: Definition of the transcription initiation site of human plasminogen gene in A;Reference number: I52242; MUID:91097523; PMID:2268308
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        J. Biol. Chem. 265, 6104-6111, 1990
A;Title: Characterization of the gene for human plasminogen,
A;Reference number: A35229; MUID:90202879; PMID:2318848
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               C;Date: 24-Apr-1984 #sequence revision 02-Dec-1994 #text_change 15-Sep-2000 C;Accession: A35229; I52242; Ā26646; I62738; I84609; S03735; A00929; A04627; A04625, A046 R;Petersen, T.E.; Martzen, M.R.; Ichinose, A.; Davie, E.W.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           plasmin (EC 3.4.21.7) precursor [validated] - human
N;Alternate names: plasminogen precursor [misnomer]
N;Contains: anglostatin; microplasmin; plasminogen
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A;Title: Molecular cloning and characterization of a full-length cDNA clone A;Reference number: A26646; MUID:87162490; PMID:3030813 A;Accession: A26646
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R;Vali, Z.; Patthy, L.
R;Vali, Z.; Patthy, L.
J. Biol. Chem. 259, 13690-13694, 1984
A;Title: The fibrin-binding site of human plasminogen. Arginines 32 and 34 are essential A;Title: The fibrin-binding site of human plasminogen. Arginines 32 and 34 are essential A;Title: The fibrin-binding site pomega-aminocarboxylic acid binding site A;Contents: annotation; fibrin binding site; omega-aminocarboxylic acid binding site A;Contents: annotation; fibrin binding site; omega-aminocarboxylic acid binding site A;Contents: annotation; fibrin binding site; omega-aminocarboxylic acid binding site
                                                                                                                                                                                                     R;Trexler, M.; Vali, Z.; Patthy, L.
J. Biol. Chem. 257, 7401-7406, 1982
A;Title: Structure of the omega-aminocarboxylic acid-binding sites
A;Reference number: A92382; MUID:82213905; PMID:6919539
A;Contents: annotation; omega-aminocarboxylic acid binding sites
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A; Molecule type: protein
A; Residues: 483-507, 75', 509-604 <WI3>
R; Robbins, K.C.; Bernabe, P.; Arzadon, L.; Summaria, L.
J. Biol. Chem. 248, 1631-1633, 1973
A; Title: The primary structure of human plasminogen. II.
A; Reference number: A92125; MUID: 73149248; PMID: 4694729
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Riochem.
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A:Residues: 20-71,
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Blochemistry 23, 4243-4250, 1984
A;Title: Characterization of a complementary deoxyribonucleic A;Reference number: 145961; MUID:85023311; PMID:6148961
A;Accession: 162738
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A;Reference number: A04625; MUID:75093329; PMID:122932 A;Accession: A04625
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A;Title: Primary structure of the B-chain of human plasmin
A;Reference number: A04627; MUID:77225245; PMID:142009
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A; Residues: 367-419
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A;Residues: 292-471,'D',473-810 <MAL2>
A;Cross-references: GB:K02922; NID:g190112;
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A;Cross-references: GB:X05199 NTD.
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Biol. Chem. 244, 3590-3597, 1969
Title: Studies on the active center of human plasmin.
Reference number: A92048; MUID:69234739; PMID:4240117
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Contents: annotation; active site; Groskopf, W.R.; Summaria, L.; Robl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ;Title: Amino-acid sequence of the cyanogen-bromide fragment from human plasminogen tha
;Reference number: A04626; MUID:76043692; PMID:126863
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             . Biochem. 58, 539-547, 1975
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        B.; Wallen, P.
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em. 114, 465-470, 1981
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1,'E',73-85,87-106,'D',108-360,'E',362-810
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L.; Petersen, T.E.;
Atlas, July 1977
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                                               A; Contents: annotation; conformation by (1) H-NMR C; Comment: Plasminogen is synthesized by the kidr C; Comment: Plasminogen is converted to plasmin by d PIR: FGHUGB).
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R;Rejante, M.; Llinas, M. submitted to the Brookhaven Protein Data Bank, A;Reference number: A65803; PDB:1HPJ
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A;Title: The refined structure of the epsilon-aminocaproic acid complex of human plasmino A;Reference number: A58818; MUID:92031503; PMID:1657149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         R;Mulichak, A.M., A.Z., 1991
Biochemistry 30, 10576-10588, 1991
A;Title: Crystal and molecular structure of human plasminogen
A;Title: Crystal and molecular structure of human plasminogen
Eur. J. Biochem. 221, 939-949, 1994

A; Title: Solution structure of the epsilon-aminohexanoic A; Reference number: A58817; MUID:94237158; PMID:8181476
                                                                                                                 A;Title: (1)H-NMR assignments and secondary structure of human plasminogen A;Reference number: S43645; MUID:94237157; PMID:8181475 A;Contents: annotation; conformation by (1)H-NMR, residues 96-184
                                                                                                                                                                                                      R;Rejante, M.R.; Llinas, M.
Eur. J. Biochem. 221, 927-937, 1994
                                                                                                                                                                                                                                                                                            R;Rejante, M.; Llinas, M. submitted to the Brookhaven Protein Data Bank, August 1996 A;Reference number: A65804; PDB:1HPK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             submitted to the Brookhaven Protein Data Bank, A;Reference number: A65980; PDB:1KRN
A;Contents: annotation; X-ray crystallography,
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A;Title: Kringle domains of human angiostatin. Characterization of the anti-proliferative
A;Reference number: A58811; MUID:97067211; PMID:8910613
A;Contents: annotation
                                                                                     R; Rejante, M.R.; Llinas, M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                R;de Vos, A.M.; Ultsch, M.H.; Kelley, R.F.; Padmanabhan, K.; Biochemistry 31, 270-279, 1992
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               R;Wu, T.P.; Padmanabhan, K.; Tulinsky, A.; Mulichak, Biochemistry 30, 10589-10594, 1991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A; Contents: annotation; X-ray crystallography, R; Mulichak, A.M.; Tulinsky, A.; Ravichandran,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               R;Tulinsky, A.; Wu, T.P.
submitted to the Brookhaven Protein Data Bank,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              submitted to the Brookhaven Protein Data Bank, A; Reference number: A51341; PDB:1PK4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A; Title: Generation of an angiostatin-like A; Reference number: A58812; MUID:9548733; F
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            R;Lijnen, H.R.; Ugwu, F.; Bini, A.; Collen, Biochemistry 37, 4699-4702, 1998
                                                                                                                                                                                                                                                                A; Contents: annotation; conformation by (1) H-NMR, residues 103-18:
                                                                                                                                                                                                                                                                                                                                                                                  A; Contents: annotation;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A; Contents:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  submitted to the Brookhaven Protein Data Bank, A;Reference number: A65245; PDB:1CEB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 submitted to the Brookhaven Protein Data Bank, A; Reference number: A65244; PDB:1CEA
A; Contents: annotation; X-ray crystallography,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                R;Tulinsky, A.; Mathews,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A; Contents: annotation; X-ray crystallography,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A; Contents: annotation;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       submitted to the Brookhaven Protein Data Bank,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     R;Wu,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A; Contents: annotation; X-ray crystallography,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A; Reference number: A51488; PDB: 2PK4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              R;Tulinsky,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A; Contents: annotation
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            R;Tulinsky, A.; Mathews, I.I.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A; Contents: annotation; X-ray crystallography, 1.9 angstroms,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         T.P.; Tulinsky, A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             annotation
                                                                                                                                                                                                                                                                                                                                                                                  conformation by (1)H-NMR, residues 103-181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          x-ray crystallography,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   X-ray crystallography, 1.67 angstroms,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     e fragment from PMID:9548733
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           U
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plasmin (EC 3.4.21.7) precursor - rhesus macaque
C.Species: Macaca mulatta (rhesus macaque)
C.Date: 31-Mar-1989 #sequence_revision 31-Mar-1989 #text_change 22-Jun-1999
C.Accession: B32869; B30848
R;Tomlinson, J.E.; McLean, J.W.; Lawn, R.M.
J. Biol. Chem. 264, 5957-5965, 1989
A;Title: Rhesus monkey apolipoprotein(a). Sequence, evolution, and sites of synthesis.
A;Reference number: A32869; MUID:89174660; PMID:2925643
A;Accession: B32869
A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-810 <TOM>
A;Cross-references: GB:J04697; NID:g342272; PIDN:AAA36901.1; PID:g342273
A;Cros
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A;Pathway: fibrinolysis
A;Pathway: fibrinolysis xingle homology; plasminogen-related protein precursor homology
C;Superfamily: plasmin; kringle homology duplication; fibrinolysis; glycoprotein; hydr
C;Keywords: anglogenesis inhibitor; blood; duplication; fibrinolysis; glycoprotein; hydr
C;Leywords: anglogenesis inhibitor; blood; duplication; fibrinolysis; glycoprotein; hydr
C;Leywords: anglogen-related protein precursor homology <PLPH>
F;1-9f/Domain: signal sequence #status predicted <SIG>
F;20-810/Product: plasminogen #status experimental <APT>
F;99-466/Product: plasminogen #status experimental <APT>
F;99-466/Product: anglostatin #status experimental <APT>
F;97-580,581-810/Product: plasmin #status experimental <APT>
F;97-580/Domain: kringle homology <KR1>
F;103-181/Domain: kringle homology <KR2>
F;275-352/Domain: kringle homology <KR3>
F;377-444/Domain: kringle homology <KR5>
F;481-560/Domain: kringle homology <KR5>
F;481-560/Domain: kringle homology <KR5>
F;481-560/Domain: kringle homology <KR5>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A;Cross-references: GDB:119498; OMIM:173350
A;Map position: 6q26-6q27
A;Introns: 17/1; 62/2; 98/1; 136/2; 183/1;
C;Function:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   C;Comment: Plasmin is inactivated by alpha-2-antiplasmin (see PIR:ITHUA2) immediately af rg-580, resulting in two chains connected by two disulfide bonds. Without the inhibitor, C;Comment: Microplasmin is formed by autolytic cleavage of plasmin under artificial cond C;Comment: Stromelysin 1 (see PIR:KCHUS1) acts on plasminogen to produce angiostatin. To
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
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                                                                                          F;622,665,760/Active
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Query Match
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                                                                                 site: His, Asp,
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7; Mismatches
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    Score 433;
                                                                                     Ser #status predicted
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    밁
Length 810;
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RESULT 5
PLBO
plasmin (EC 3.4.21.7) precursor - bovine
plasmin (EC 3.4.21.7) precursor - bovine
N,Alternate names: plasminogen
C;Species: Bos primigenius taurus (cattle)
C;Sate: 30-Sep-1987 #sequence 38-A;
C;Accession: $45046; AZ5835; I45961; S03736
C;Accession: $45046; AZ5837; Petersen, T
                        F;27-103/Domain: activation peptide #status experimental <APT>
F;104-83,584-812/Product: plasmin #status experimental <AMT>
F;104-83/Domain: plasmin chain A #status experimental <ACH>
F;104-83/Domain: kringle homology <KR1>
F;110-188/Domain: kringle homology <KR2>
F;122-269/Domain: kringle homology <KR2>
F;282-359/Domain: kringle homology <KR3>
F;384-461/Domain: kringle homology <KR3>
F;384-961/Domain: kringle homology <KR5>
F;485-564/Domain: kringle homology <KR5>
F;485-564/Domain: kringle homology <KR5>
F;584-812/Domain: trypsin homology <KR5>
F;584-805/Domain: trypsin homology <KR3-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Eur. J. Blochem. 114, 465-470, 1981
A;Title: Comparison of the primary structure of the N-terminal CNBr fragments of human, A;Reference number: S03735; MUID:B1212097; PMID:7238497
A;Reference number: S03736
A;Accession: S03736
A;Molecule type: protein
A;Residues: 27-83 <BRU>
C;Function:
C;Function: dissolves the fibrin of blood clots; acts as a proteolytic factor in a value walls of the graafian follicle; also activates the urokinase-type plasminogen act
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A;Note: it is uncertain whether Met-1 or Met-8 is the initiator R;Schaller, J.; Moser, P.W.; Dannegger-Muller, G.A.K.; Rosselet, Bur. J. Biochem. 149, 267-278, 1985
A;Title: Complete amino acid sequence of bovine plasminogen. Comp. A;Reference number: A25835; MUID:85203906; PMID:3846532
A;Accession: A25835
                                                                                                                                                                                                                                                                                                                                                                                                                                                     A;Pathway: fibrinolysis
C;Superfamily: plasmin; kringle homology; plasminogen-related protein precursor homology.
C;Superfamily: plasmin; fibrinolysis; glycoprotein; hydrolase; kidney; kringle; plasma;
C;Keywords: duplication; fibrinolysis; glycoprotein; hydrolase; kidney; kringle; plasma;
F;1-26/Domain: signal sequence #status predicted <SIG>
F;1-26/Domain: plasminogen-related protein precursor homology <PLPH>
F;27-812/Product: plasminogen #status experimental <PRO>
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A;Residues: 27-334,'D',336-515,'H',517-554,'L',556-812 <SCH>
A;Residues: 27-334,'D',336-515,'H',517-554,'L',556-812 <SCH>
R;Malinowski, D.P.; Sadler, J.E.; Davie, E.W.
Biochemistry 23, 4243-4250, 1984
B;Title: Characterization of a complementary deoxyribonucleic acid coding for human and A;Reference number: 145961; MUID:85023311; PMID:6148961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A;Molecule type: mRNA
A;Residues: 706-743, 'R',745-812 <MAL>
A;Cross-references: GB:K02935; NID:9163551; PIDN:AAA30714.1; PID:9163552
R;Brunisholz, R.A.; Lerch, P.G.; Schaller, J.; Rickli, B.B.; Lergier, W.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               submitted to the EMBL Data Library, May 1994
A;Description: Cloning and characterizatin of the bovine plasminogen cDNA.
A;Reference number: S45046
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A;Status: translated from GB/EMBL/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A;Accession: I45961
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GPWCFTTDPSVRWEYCNLKKCSGTEGSV
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predicted
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N;Alternate names: plasminogen
C;Species: Capra aegagrus hircus (domestic goat)
C;Date: 28-Oct-1994 #sequence_revision 28-Oct-1994 #text_change 12-May-1995
C;Accession: C61545
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  plasmin (EC 3.4.21.7) precursor - dog (fragments)
N;Alternate names: plasminogen
C;Species: Canis lupus familiaris (dog)
C;Date: 28-Oct-1994 #sequence_revision 28-Oct-1994 #text_change 12-May-1995
C;Accession: E61545
R;Schaller, J: Rickli, E.E.
Enzyme 40, 63-69, 1988
A;Title: Structural aspects of the plasminogen of various species.
A;Reference number: A61545; MUID:89005015; PMID:3168975
A;Accession: E61545
                                                                                                                                                                                     A; Molecule type: protein A; Residues: 1-123 < SCH>
                                                                                                                                                                                                                                                                  A; Title: Structural aspects of the plasminogen of various species A; Reference number: A61545; MUID:89005015; PMID:3168975
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Enzyme 40, 63-69, 1988
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local S
Matches 65
                                                                                                                                          Superfamily: plasmin; kringle homology; Keywords: hydrolase; serine proteinase
                                      Matches
                                                            Query Match
Best Local :
                                                                                                                      41-118/Domain: kringle homology <KR4>
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Keywords: hydrolase; serine proteinase
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                                        65;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      h 79.3%;
Similarity 79.5%;
                                                            Similarity
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RQCYHGNGQSYRGTFSTTVTGRTCQSWSSMTPHRHQRTPENYPNDGLTMNYCRNPDADTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              VQECYHGNGQSYRGTSSTTITGRKCQSWSSMTPHRHEKTPEHFPEAGLTMNYCRNPDADK 93
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                                                            77.8%;
79.3%;
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74.7%; Pred. No. 2.66
tive 12; Mismatches
                                      8;
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                                                            Score 407; DB 2;
Pred. No. 1.1e-34;
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                                        Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mismatches
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.6e-35;
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                                                                                                                                                               precursor homology
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  RESULT
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A; McGessacco. Protein
A; Molecule type: protein
A; Mesidues: 1-57 < GRUV
A; Residues: 1-57 < GRUV
A; Residues: 1-57 < GRUV
A; Residues: 1-57 < GRUV
A; Rickli, E.E.
Eur. J. Biochem. 149, 279-285, 1985
Eur. J. Biochem. 149, 279-285, 1985
A; Title: Determination of the complete amino-acid sequence of
A; Title: Determination of the complete amino-acid sequence of
A; Title: Determination of the complete amino-acid sequence of
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F;256-333/Domain: kringle homology <RR3>
F;358-435/Domain: kringle homology <RR4>
F;358-435/Domain: kringle homology <RR4>
F;450-790/Product: miniplasminogen #Btatus experimental <MIN>
F;450-790/Product: plasmin chain B #Status experimental <BCH>
F;461-540/Domain: kringle homology <RR5>
F;561-790/Product: plasmin chain B #Status experimental <BCH>
F;561-783/Domain: trypsin homology <TRY>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     F;1-790/Product: plasminogen #status predicted <PRO>
F;1-77/Domain: plasminogen-related protein precursor homology
F;1-77/Domain: activation peptide #status predicted <APT>
F;78-560/Product: plasmin chain A #status predicted <ACH>
F;84-162/Domain: kringle homology <KR1>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            C;Species: Sus scrofa domestica (domestic pig)
C;Date: 07-Sep-1990 #sequence revision 01-Nov-1996 #text_change 18
C;Accession: S03731; 803737; A25834
R;Schaller, J.; Marti, T.; Roesselet, S.J.; Kaempfer, U.; Rickli, Fibrinolysis 1, 91-102, 1987
R;Title: Amino acid sequence of the heavy chain of porcine plasmir
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Eur. J. Blochem. 114, 465-470, 1981
A;Title: Comparison of the primary structure of the N-to A;Reference number: S03735; MUID:81212097; PMID:7238497
A;Accession: S03737
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        plasmin (EC 3.4.21.7) precursor - N;Alternate names: plasminogen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PLPG
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                                                                                                                                                                                                                                                                                                                                                                         F;30-54,34-42,84-162,105-145,133-157,166-243,169-297,187-226,215-238,256-333,277-316,305
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A; Pathway: fibrinolysis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     C; Function:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A; Molecule type: protein A; Residues: 450-790 < MAR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              R; Brunisholz, R.A.; Lerch,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A; Residues: 1-560 <SCH>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A; Accession: S0373
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A;Molecule type: protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Superfamily: plasmin; kringle homology; plasminogen-related protein precursor homology;
Keywords: fibrinolysis; glycoprotein; hydrolase; kidney; kringle; plasma; serine protei;
                                                                                                                                                                                                                  Matches
                                                                                                                                                                                                                                     Query Match
Best Local S
                                                                                                                                                                                                                                                                                                                         ,645,740/Active
                                                                                                                                                                                                                                                                                                                                          #status predicted
416
                                                                                                       356
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                                                                                                                                                                                                               64;
                                                                                                                                                            N
                                                                                                                                                                                                                                           Similarity
PWCYTTDPRVRWEYCNLKKCSETEQQV
                                                                                                       QDCYRGNGESYRGTSSTTITGRKCQSWVSMTPHRHEKTPGNFPNAGLTMNYCRNPDADKS: 415
                                                                                                                                      RQCYHGNGQSYRGTFSTTVTGRTCQSWSSMTPHRHQRTPENYPNDGLTMNYCRNPDADTG
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  QDCYHGNGQSYRGTSSTTVTGRKCQSWSSMI PHRHQKTPESYPNAGLTMNYCRNPDADKS
                                                  PWCFTTDPSIRWEYCNLTRCSDTEGTV 88
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PWCYTTDPRVRWEFCNLKKCSE 120
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 <MAR>
                                                                                                                                                                                                                                                                                                                      site: His, Asp, Ser #status predicted
                                                                                                                                                                                                                                        76.7%;
73.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 P.G.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             fibrin of blood clots; acts as a proteolytic factor in a var follicle; also activates the urokinase-type plasminogen acti
                                                                                                                                                                                                            10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (domestic pig)
vision 01-Nov-1996 #text_change 18-Jul-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Schaller, J.; Rickli, E.E.; Lergier,
                                                                                                                                                                                                                                        Score 401; DB 1;
Pred. No. 2.8e-33;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 pig (fragment)
                                                                                                                                                                                                                  Mismatches
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442
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  of porcine plasmin.
                                                                                                                                                                                                                  13;
                                                                                                                                                                                                                                                              Length
                                                                                                                                                                                                                  Indels
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                                                                                                                                                                                                               Gaps
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plasmin (EC 3.4.21.7) precursor - mouse N;Contains: angiostatin; plasminogen C;Species: Mus musculus (house mouse) C;Date: 20-Sep_1991 #sequence revision 01-Nov-1996 #text_change 18-Jun-1999 C;Accession: A38514; S48202; S48203 C;Accession: A38514; S48202; S48203 C;Accession: A38514; S48202; S48203 C;Accession: A38514; S48202; S48203 C;Accession: A38514; Schaefer, L.A.; Elliott, R.W. Genomics 8, 49-61, 1990 Genomics 8, 49-61, 1990 A;Title: Characterization of the cDNA coding for mouse plasminogen and localization A;Reference number: A38514; MUID:91184812; PMID:2081600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    e inhibitor, the activation involves also removal of the activation peptide.

C; comment: Stromelysin 1 (see PIR:KCMSS1) acts on plasminogen to produce angiostatin. To eful in treating solid tumors.

C; Function:

A; Description: dissolves the fibrin of blood clots; acts as a proteolytic factor in a value of the graafian follicle; also activates the urokinase-type plasminogen act the walls of the graafian follicle; also activates the urokinase-type plasminogen act R; Pathway: fibrinolysis

C; Superfamily: plasmin; kringle homology; plasminogen-related protein precursor homology (; Superfamily: plasminogen-related protein precursor homology c; Superfamily: plasminogen-related protein precursor homology (; Pil-96; Domain: plasminogen-related protein precursor homology < PLPH>
F; 1-96; Domain: signal sequence #status predicted <SIG>
F; 20-96; Domain: signal sequence #status predicted <APT>
F; 9-466; Product: angioscatin #status predicted <APT>
F; 9-7-581, 582-812; Product: plasmin #status predicted <ANT>
F; 9-7-581, 582-812; Product: plasmin
RESULT 10
I46260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    F:97-581/S82-812/Product: plasmin #status predicted <MAT>
F:97-581/Domain: chain A #status predicted <ACH>
F:97-581/Domain: kringle homology <KR1>
F:185-262/Domain: kringle homology <KR2>
F:275-352/Domain: kringle homology <KR3>
F:377-454/Domain: kringle homology <KR4>
F:377-454/Domain: kringle homology <KR4>
F:481-560/Domain: kringle homology <KR5>
F:481-560/Domain: kringle homology <KR5>
F:582-812/Domain: kringle homology <KR5>
F:582-805/Domain: chain B #status predicted <BCH>
F:582-805/Domain: trypsin homology <TRY>
F:49-73,53-61,103-181,124-164,152-176,185-262,188-316,206-245,234-257,275-352,296-335,32
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                                                                                                                                                                                                                                                                             61 GPWCFTTDPSIRWEYCNLTRCSDTEGTVV 89
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Similarity
                                                                                                                                                                                          GPWCYTTDPSVRWEYCNLKRCSETGGSVV
                                                                                                                                                                                                                                                                                                                                                                          VQECYQSDGQSYRGTSSTTITGKKCQSWAAMFPHRHSKTPENFPDAGLEMNYCRNPDGDK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  VRQCYHGNGQSYRGTFSTTVTGRTCQSWSSMTPHRHQRTPENYPNDGLTMNYCRNPDADT 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 76.5%; Score 400; DB 1; 70.8%; Pred. No. 3.7e-33;
                                                                                                                                                                                               462
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C;Superfamily: plasmin; kringle homology; plasminogen-related protein precursor homology, C;Keywords: fibrinolysis; glycoprotein; hydrolase; kringle; plasma; serine proteinase; z) F;1-37,38-117,118-460/Product: plasminogen (fragments) #status experimental <PRO>F;1-37/Domain: activation peptide (fragment) #status experimental <APT>F;38-117,118-230,231-460/Product: plasmin (fragments) #status experimental <AMT>F;41-118/Domain: kringle homology <KR4>F;41-118/Domain: kringle homology <KR5>F;118-460/Product: miniplasminogen #status experimental <MIN>F;132-211/Domain: kringle homology <KR5>F;226-460/Domain: plasmin chain B #status experimental <BCH>F;331-453/Domain: trypsin homology <TRY>F;231-453/Domain: trypsin homology <TRY>F;272,315,410/Active site: His, Asp, Ser #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A;Title: Structural aspects of the plasminogen of various species.
A;Reference number: A61545; MUID:89005015; PMID:3168975
A;Accession: B61545
A;Molecule type: protein
A;Residues: 1-37;38-117 <SCH>
R;Schaller, U.; Straub, C.; Kaempfer, U.; Rickli, E.S.
Protein Seq. Data Anal. 5, 21-25, 1992
A;Reference number: S28200; MUID:93149995; PMID:1492092
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A;Title: The recurring evolution of Lp(a): Insights from cloning A;Reference number: I46259; MUID:96025778; PMID:7592597
A;Accession: I46260
A;Status: preliminary; translated from GB/EMBL/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            plasmin (EC 3.4.21.7) precursor - western European hedgehog
C;Species; Erinaceus europaeus (western European hedgehog)
C;Date: 21-Feb-1997 #sequence_revision 21-Feb-1997 #text_change
C;Accession: I46260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   R;Schaller, J.; Rickli, E.E.
Enzyme 40, 63-69, 1988
A;Title: Structural aspects
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    C;Species: Ovis orientalis aries, Ovis C;Date: 28-Oct-1994 #sequence_revision C;Accession: B61545; $28200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          plasmin (EC 3.4.21.7) precursor N;Alternate names: plasminogen
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F;379-456/Domain: kringle homology <KR5>
F;482-561/Domain: kringle homology <KR5>
F;582-803/Domain: trypsin homology <TRY>
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C;Superfamily: plasmin; kringle homology; plasminogen-related
C;Keywords: hydrolase; serine proteinase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A; Molecule type: mRNA
A; Residues: 1-810 < LAW >
                                                                                                                                                                                                                                                                                                                                                                                                                                  A; Molecule type: protein A; Residues: 118-460 <SC2>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A; Accession: S28200
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                           Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         436 GPWCYTTDPSVRWEFCNLKKCSGTE
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                           Similarity
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Conservative
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71.8%;
                           74.2%;
78.5%;
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Pred. No. 2.4e-32;
2; Mismatches 12
                           Score 388;
Pred. No.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ammon aries (domestic sheep)
01-Nov-1996 #text_change 17-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            460
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                                                            DB 2;
                              5e-32;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               #text_change 17-Mar-1999
                                                         Length 460;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 810;
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      0
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      0
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G;Kuperfamily; plasmin; kringle homology; plasminogen-related protein precursor homology G;Keywords: fibrinolysis; glycoprotein; hydrolase; kringle; plasma; serine proteinase; z F;1-33,34-117,118-55/Product: plasminogen (fragments) #status experimental <PRO> F;1-33/Domain: activation peptide (fragment) #status experimental <APT> F;34-117,118-225,226-455/Product: plasmin (fragments) #status experimental <AMT> F;37-114/Domain: kringle homology <KR4>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A;Cross-references: GB:M62832; NID:g206215; PIDN:AAA41884.1; PID:g554488
A;Note: the authors translated the codon TCT for residue 76 as Ala
C;Superfamily: plasmin; kringle homology, plasminogen-related protein precursor homology
C;Keywords: fibrinolysis; glycoprotein; hydrolase; kringle; serine proteinase
P;34-112/Domain: kringle homology <KRG>
F;34-112,55-95,83-107/Disulfide bonds: #status predicted
                                                                                                                                                                                                                       A;Molecule type: protein
A;Residues: 1-3;34-117 <SCH>
R;Schaller, J.; Straub, C.; Kaempfer, U.; Rickli, E.E.
Protein Seq. Data Anal. 4, 69-74, 1991
A;Title: Complete amino acid sequence of equine miniplasminogen.
A;Reference number: $17527; MUID:92052077; PMID:1946332
                                                                                                                                                                                                                                                                                                                                                                                                                          J. Biol. Chem. 266, 10825-10829, 1991
A;Title: Identification of the rat Heymann
A;Reference number: A40522; MUID:91250378;
A;Accession: A40522
                                                                                                                                                           A; Molecule type: protein A; Residues: 118-455 < SC2>
                                                                                                                                                                                                 A; Accession: S17527
                                                                                                                                                                                                                                                                                                                                                                                    A; Title: Structural aspects of the plasminogen of various A; Reference number: A61545; MUID:89005015; PMID:3168975
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 C; Accession: A61545;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                N;Alternate names: plasmino
N;Contains: miniplasminogen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  plasmin (EC 3.4.21.7) precursor -
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A; Residues: 1-169 < KAN>
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C;Species: Rattus norvegicus (Norwav rat)
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                                                                                                                                                                                                                                                                                                                                                                      A; Accession: A61545
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Species: Equus caballus (domestic horse); Date: 28-Oct-1994 #sequence_revision 01-Nov-1996; Accession: A61545; S17527
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Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                          40, 63-69, 19
e: Structural
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9, 1988
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71.9%;
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#status experimental <MIN>
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WALTERNATE names: plasminogen
C;Species: Gallus gallus (chicken)
C;Date: 22-Jan-1993 #sequence_revision 22-Jan-1993 #text_change 16-Jul-1999
C;Accession: A60140
                                                                                                                                                    A;Status: preliminary; translated A;Molecule type: mRNA A;Residues: 1-2869 <LAW>
                                                                                                                                                                                                                                                                                                         apolipoprotein(a) - western European hedgehog (fragment)
C;Species: Brinaceus europaeus (western European hedgehog)
C;Date: 15-Oct-1999 #sequence_revision 15-Oct-1999 #text_change 07-Dec-1999
C;Accession: T18518
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        C;Superfamily: plasmin; kringle homology; plasminogen-related protein precursor homology; C;Keywords: fibrinolysis; glycoprotein; hydrolase; kringle; plasma; serine proteinase F;6-83/Domain: kringle homology cKRG» F;6-83,27-66,55-78/Disulfide bonds: #status predicted F;39/Binding site: carbohydrate (Asn) (covalent) #status experimental
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Biochim. Biophys. Acta 832, 326-330, 1985
A;Title: The kringle 4 domain of chicken plasminogen.
A;Title: The kringle 4 domain of chicken plasminogen.
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F;226-455/Domain: plasmin chain B #status experimental <BCF
F;226-448/Domain: trypsin homology <TRY>
F;267,310,405/Active site: His, Asp, Ser #status predicted
                                                                         C; Comment: The lipoprotein ent apolipoprotein(a).
                                                                                                                                                                                                                              J. Biol. Chem. 270, 24004-24009, 1995
A;Title: The recurring evolution of Lp(a):
A;Reference number: 146259; MUID:96025778;
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A; Residues: 1-89 < GYE>
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                                                                                                                A; Experimental source: liver
                                                                                                                                                                                                                                                                                                                                                                                           T18518
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                                                                                                                                  A; Cross-references: EMBL: U33170;
                                                                                                                                                                                                             A; Accession: T18518
                                                                                                                                                                                                                                                                                         R; Lawn, R.M.; Boonmark, N.W.; Schwartz,
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CI - FUNCTION Apo(a) is the main constituent of lipoprocein(a)

(Ly(a)). It has serine procesinase activity and is able of autoprocebysts. Inhibite tissue-type plasminogen activator 1.

CI - FUNCTION Apo(a) is the main constituency of the following the processor of the constituency of the constituency
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Tomlinson J.E., McLean J.W., Lawn
"Rhesus monkey apolipoprotein(a).

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KRINGLE TYPE V.
SERINE BROTEASE.
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Pred. No. 4.1e-47;
0; Mismatches 1
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W; 96921BE96A465C5F CRC64;
                                                                                                                                                                                                                                                   Catarrhini; Cercopithecidae;
                                                                                                                                                                                                                                                                                  Craniata; Vertebrata; Euteleostomi;
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(Apo(a)) (Lp(a)) (Fragment)
                                           Sequence,
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Best Local
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SMART; SM00130; KR; 10.

SMART; SM000130; Tryp SPc; 1.

PROSITE; PS00021; KRINGLE 1; 10.

PROSITE; PS50070; KRINGLE 2; 10.

PROSITE; PS50240; TRYPSIN DOM; 1.

PROSITE; PS50240; TRYPSIN HIS; PALSE NEG.

PROSITE; PS00135; TRYPSIN SEE; PALSE NEG.
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NON TER
DOMAIN
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InterPro; IPR001001; Kringle.
InterPro; IPR001254; Ser protease_Try.
Pfam; PF00051; kringle; 11.
Pfam; PF00089; trypsin; 1.
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MEROPS; S01.226;
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                                                                                                                                            SEQUENCE
                                                                                                                                                                                    DOMAIN
                                                                                                                                                                                                                                                                                                                                              Hydrolase;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MISCELLANEOUS: Apo(a) is known to be proteolytically cleaved, leading to the formation of the so called mini-Lp(a). Apo(a) fragments accumulate in atherosclerotic lesions, where they may promote thrombogenesis. O-glycosylation may limit the extent of proteolytic fragmentation (By similarity).

SIMILARITY: BELONGS TO PEPTIDASE FAMILY S1. PLASMINOGEN SUBFAMILY. SIMILARITY: Contains at least 10 kringle domains.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DISEASE: Elevated plasma concentrations of apo(a) and its naturally occurring proteolytic fragments are correlated with atherosclerosis. Homology with plasminogen kringles IV and V is thought to underlie the atherogenicity of the protein, because the fragments are competing with plasminogen for fibrin logen) binding.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           decorin (By similarity).
PTM: N- and O-glycosylated (By similarity)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Lp(a) may be a ligand for megalin/Gp 330.
SUBUNIT: Disulfide-linked to apo-B100. Binds to fibronectin and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FUNCTION: Apo(a) is the main constituent of lipoprotein(a) (Lp(a)). It has serine proteinase activity and is able of autoproteolysis. Inhibits tissue-type plasminogen activator Lp(a) may be a ligand for megalin/Gp 330.
61
                                                                                   81;
                                                       -
                                                                                                Similarity
GPWCFTTDPSIRWEYCNLTRCSDTEGTVV
                                            VRQCYHGNGQSYRGTFSTTVTGRTCQSWSSMTPHRHQRTPENYPNDGLTMNYCRNPDADT
                          VQQCYHGNGQSYRGTFSTTVTGRTCQSWSSMTPHQHKRTPENHPNDDLTMNYCRNPDADT 1124
                                                                                                                                                                                                                                                                                                                               Repeat;
                                                                                                                                                                                                                                                                                                                                            Serine protease; Lipid transport; Plasma; Glycoprotein;
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91.0%;
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                                                                                               478; DB 1;
No. 1.8e-43;
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"Biochem.
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J. Biol. Chem. 265.6104-6717.
ACTIVE SITE.
MEDLINE-73149248; PubMed=4694729;
Robbins K.C., Bernabe P., Arzadon
                                                                                                                                "Amino-acid sequence of the cyanogen-bromide fragment from human plasminogen that forms the linkage between the plasmin chains."; Bur. J. Blochem. 58:539-547(1975).
                                                                                                                                                                                                                                                                                                     "Structural relationship between 'glutamic acid' and 'lysine' fo of human plasminogen and their interaction with the NH2-terminal activation peptide as studied by affinity chromatography."; Eur. J. Biochem. 50:489-494(1975).
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                                                                                                                                                                                                                           Softrup-Jensen L., Claeys H., Zajdel M., Petersen T.E., (In) Davidson J.F., Rowan R.M., Samama M.M., Desnoyers Progress in chemical fibrinolysis and thrombolysis, pp. Raven Press, New York (1978).
                                                                                                                                                                                                                                                   SEQUENCE OF 95-580; 581-626; 657-700 AND 732-810.
Sottrup-Jensen L., Claeys H., Zajdel M., Petersen T.E.,
(In) Davidson J.F., Rowan R.M., Samama M.M., Desnoyers
                                                                                                                                                                                                                                                                                                                                                         MEDLINE=75093329; Pu
Wiman B., Wallen P.;
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Malinowski D.P., Sadler J.E., Davie E.W.;
"Characterization of a complementary deox
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Homo sapiens (Human).
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Primates;
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15-SEP-2003
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P00747;
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FEBS Lett. 213:254-260
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Wiman B., Wallen P.;
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                                                                                                                                                                                                                                                                                                                                                                                                            and bovine plasminogen.";
emistry 23:4243-4250(1984).
                                                       structure of the B-chain of Biochem. 76:129-137(1977).
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precursor
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      Arzadon
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      Summaria L.;
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"Studies on the sequence of a p J. Biol. Chem.
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                        MEDLINE=92031502; PubMed=1657148; Mulichak A.M., Tulinsky A., Ravichar "Crystal and molecular structure of refined at 1.9-A resolution.";
                                                                                                                                      MEDLINE=97238710; PubMed=910222
Sim B.K., O'Reilly M.S., Liang
Lapgevich R., Nacy C.A.;
"A recombinant human angiostati
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MEDLINE=97207306; PubMed=9054441;
Pirie-Shepherd S.R., Stevens R.D.,
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"Structure of the omega-aminocarboxylic plasminogen. Arginine 70 and aspartic ac binding of ligand by kringle 4.";
J. Biol. Chem. 257:7401-7406(1982).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDLINE=69234739; PubMed=4240117; Groskopf W.R., Summaria L., Robb;
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                                                                                                                                                                                                                                                                                          CHARACTERIZATION OF ANGIOSTATIN, MEDLINE=95042728; PubMed=7525077;
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J. Biol. Chem.
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                                                                                                                                                                                                                                                                                                                                               "Evidence for a novel O-linked sialylated human plasminogen 2.";
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                                                                                                                                                                                                                                                                                                                                                                           S.V.;
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ol. Chem. 272:7408-7411(1997).
                                                                                CRYSTALLOGRAPHY (1.9
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             R., Summaria L., Robbins K.C.;
the active center of human plasmin.
a peptide containing the active cent
em. 244:3590-3597(1969).
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MEDLINE=94237157; PubMed=8181475;
Rejante M.R., Llinas M.;
Rejante M.R., Llinas M.;
                                                                                                                                                                                                                                                                                            STRUCTURE BY NMR OF 183-354.
MEDLINE=96194156; PubMed=8652577;
Soehndel S., Hu C.-K., Marti D., Frickli B.E.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  "Crystal structures of the recombinant kringle 1 domain of hume plasminogen in complexes with the ligands epsilon-aminocaproic and trans-4-(aminomethyl)cyclohexane-1-carboxylic Acid."; Biochemistry 35:2567-2576(1996).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Wu T.-P., Padmanabhan K., Tulinaky A., Mulichak A.M
"The refined structure of the epsilon-aminocaproic
human plasminogen kringle 4.";
Biochemistry 30:10589-10594(1991).
                                                                                                                                                                                                  STRUCTURE BY NMR OF 374-461.
MEDLINE=90219023; PubMed=2157850;
Atkinson R.A., Williams R.J.P.;
                                                                                                                                                                                                                                            "Recombinant gene expression and 1H NMR characteristics of the kringle (2 + 3) supermodule: spectroscopic/functional individuality of plasminogen kringle domains."; Biochemistry 35:2357-2364(1996).
                                                                                                                                                                                                                                                                                                                                                                                      STRUCTURE BY NMR OF 96-184.
MEDLINE=94237158; PubMed=8181476;
Rejante M.R., Llinas M.;
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MEDLINE=96180681; PubMed=8611560;
Mathews I.I., Vanderhoff-Hanaver P.,
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Biochemistry 37:3258-3271(1998).
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"Structure and ligand binding
5 domain of human plasminogen.
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"Structure of human plasminogen kringle 4 at 1.68
A possible structural role of disordered residues.
Acta Crystallogr. D 53:169-178(1997).
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RESULT 4
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InterPro; IPR001314; Chymotrypsin.
InterPro; IPR000001; Kringle.
InterPro; IPR003014; PAN.
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InterPro; IPR001254; PAN; 1.
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Mammalia; Eutheria; Primates; Catarrhini; Cercopithecidae;
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Eukaryota; Metazoa; Chordata; Cr
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ENZYME REQULATION: CONVERTED INTO PLASMIN BY PLASMINOGEN
ACTIVATORS, BOTH PLASMINOGEN AND ITS ACTIVATOR BEING BOUND TO
PIBRIN. ACTIVATED WITH CATALYTIC AMOUNTS OF STREPTOKINASE.
MISCELLANEOUS: PLASMIN IS INACTIVATED BY ALPHA-2-ANTIPLASMIN
IMBEDIATELY AFTER DISSOCIATION FROM THE CLOT.
MISCELLANEOUS: IN THE PRESENCE OF THE INHIBITOR, THE ACTIVATION
INVOLVES ONLY CLEAVAGE AFTER ARG-580, RESULTING IN 2 CHAINS HELD
TOGETHER BY 2 DISULFIDE BONDS. WITHOUT THE INHIBITOR, THE
ACTIVATION INVOLVES ALSO REMOVAL OF THE ACTIVATION PEPTIDE.
SIMILARITY: BELONGS TO PEPTIDASE FAMILY S1. PLASMINOGEN SUBFAMILY.
SIMILARITY: Contains 5 kringle domains.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            s SWISS-PROT entry is copyright. It is produced through ween the Swiss Institute of Bioinformatics and the EM European Bioinformatics Institute. There are no restropy the support of the swiss institutions as long as its content by non-profit institutions as long as its content
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         and this statement is not removed. Usage by and for commercial requires a license agreement (See http://www.isb-sib.ch/announce/an email to license@isb-sib.ch).
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(Rel. 12, Last sequence update)
(Rel. 41, Last annotation update)
precursor (EC 3.4.21.7).
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Sequence, evolution, and sites
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PS00135;
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PS50070;
PS50240;
GPWCI
                     GPWCFTTDPSIRWEYCNLTRCSDTEGTV
                                                                           VQECYHGDGQSYRGTSSTTTTGKKCQSWSSMTPHWHEKTPENFPNAGLTMNYCRNPDADK 433
                                                                                                                 VRQCYHGNGQSYRGTFSTTVTGRTCQSWSSMTPHRHQRTPENYPNDGLTMNYCRNPDADT
                                                                                                                                                                                                                                                                                 Conservative
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KRINGLE 2; 5.

TRYPSIN DOM; 1.

TRYPSIN HIS; 1.

; TRYPSIN_SER; 1.

s protease; Plasma; Glycoprotein; Fibrinolysis;

proced coagulation; Kringle; Zymogen; Repeat;
                                                                                                                                                                                                                                         90255 MW;
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79.5%;
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PIBRIN.

BY SIMILARITY.

BY SIMILARIT
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OMEGA-AMINOCARBOXYLIC A
OMEGA-AMINOCARBOXYLIC A
OMEGA-AMINOCARBOXYLIC A
                                                                                                                                                                              Score 433; DB 1;
Pred. No. 6.5e-39;
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E 2.
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RESULT 5
PLMN_BOVIN
ID PLMN_BOVIN

STANDARD;

PRT;

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MEDLINE-BEHISS29; Pubmede3356193;

WARDLINE-BEHISS29; Pubmede3356193;

WA Marti T., Schaller J., Rickli E.E., Schmid K., Kamerling J.P.,

WA Gerwig G.J., van Halbeek H., Vliegenthart J.F.;

WA GERWig G.J., van Halbeek H., Vlie
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           P06868; Q28162;
01-JAN-1988 (Rel
01-NOV-1997 (Rel
28-FEB-2003 (Rel
EMBL;
                                                                                                                        This SWISS-PROT entry is copyright. It is produced through a between the Swiss Institute of Bioinformatics and the EMBL the European Bioinformatics Institute. There are no restrict use by non-profit institutions as long as its content is modified and this statement is not removed. Usage by and fentities requires a license agreement (See http://www.isb-sibor send an email to license@isb-sib.ch).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Schaller J., Moser P.W., Dannegger-Muller G.A.K., Rosselet S.J., Kampfer U., Rickli E.E.; "Complete amino acid sequence of bovine plasminogen. Comparison
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Berglund L., Andersen M.D., Petersen T.E.; "Cloning and characterization of the bovine plasminogen cDNA."; Int. Dairy J. 5:593-603(1995).
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Mammalia; Eutheria; Ce
Bovidae; Bovinae; Bos.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Bos taurus (Bovine).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Plasminogen
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRODUCTS.

ENZYME REGULATION: CONVERTED INTO PLASMIN BY PLASMINOGEN ENZYME REGULATION: CONVERTED WITH STREPTOKINASE.

PIBRIN. CANNOT BE ACTIVATED WITH STREPTOKINASE.

PTM: N-LINKED GLYCAN CONTAIN N-ACETYLLACTOSAMINE AND SIALIC ACID.

O-LINKED GLYCANS CONSIST OF GAL-GALJAC DISACCHARIDE WITH IS OLINGED GLYCANS CONSIST OF GAL-GALJAC DISACCHARIDE WITH IS MODIFIED WITH UP TO 2 SIALIC ACID RESIDUES (MICROHETEROGENEITY).

MISCELLANEOUS: PLASMIN IS INACTIVATED BY ALPHA-2-ANTIPLASMIN IMBEDIATELY AFTER DISSOCIATION FROM THE CLOT.

SIMILARITY: BELONGS TO PEPTIDASE FAMILY S1. PLASMINOGEN SUBFAMILY SIMILARITY: Contains 5 kiingle domains.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LAMININ AND VON WILLEBRAND FACTOR.
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X79402; CAA55939.1;
KO2935; AAA30714.1;
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(Rel. 35, Last sequence update)
(Rel. 41, Last annotation update)
precursor (EC 3.4.21.7).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AND CARBOHYDRATE-LINKAGE
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                                                                                                                                                                           http://www.isb-sib.ch/announce/
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DT 01-FE
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PRINTS; PR00722; CHYMOTRYPSIN.

PRINTS; PR00018; KRINGLE.

PRINTS; PR00018; KRINGLE.

PRINTS; PR01505; PROTHROMBIN.

ProDom; PD000395; Kringle; 5.

SMART; SM00130; KR; 5.

SMART; SM00473; PAN AP; 1.

SMART; SM00070; Tryp SPC; 1.

PROSITE; PS00021; KRINGLE 1; 5.

PROSITE; PS00021; KRINGLE 2; 5.

PROSITE; PS50070; KRINGLE 2; 5.

PROSITE; PS50070; TRYPSIN DOM; 1.

PROSITE; PS500134; TRYPSIN HIS; 1.

PROSITE; PS00134; TRYPSIN BER; 1.
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InterPro; IPR00001; Kringle.
InterPro; IPR003014; PAN.
InterPro; IPR003019; Pan app.
InterPro; IPR003966; Prothrombin.
InterPro; IPR001254; Ser_protease_Try.
Pfam; PF00054; Kringle; 5.
P06867;
01-JAN-1988
01-FEB-1991
28-FEB-2003
Plasminogen
PLG
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Tissue remo
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GlycoSuiteDB; P06868;
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                                                                                                                                                                                                                                                                                              382
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PF00051; kringle;
PF00024; PAN; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            P00747;
                                                                                                                                                                                                                                                        62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     remodeling;
                                                                                                                                                                                                                                                                                                                                    N
                                                                                                                                                                                                                                                                                                                                                                         66;
                                                                                                                                                                                                                                                                                                                                                                                             Similarity
                                                                                                                                                                                                                                                                                              QDCYHGNGQSYRGTSSTTITGRKCQSWSSMTPHRHLKTPENYPNAGLTMNYCRNPDADKS
                                                                                                                                                                                                                                                                                                                    ROCYHGNGOSYRGTFSTTVTGRTCQSWSSMTPHRHQRTPENYPNDGLTMNYCRNPDADTG
                                                                                                                                                                                                                   PWCYTTDPRVRWEFCNLKKCSET 464
                                                                                                                                                                                                                                        PWCFTTDPSIRWEYCNLTRCSDT 84
                                                                                                                                                                                                                                                                                                                                                                                                                                                 624
667
762
335
516
516
744
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Serine protease; Plasma; Glycoprotein; Fibrinolysis; 
deling; Blood coagulation; Kringle; Zymogen; Repeat;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1
27
27
584
110
192
282
282
384
                    (Rel. 10, Created)
(Rel. 17, Last sequence update)
(Rel. 41, Last annotation updat
(EC 3.4.21.7).
                                                                                                                                                                                                                                                                                                                                                                         Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ā
                                                                                                                     STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        624
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3159
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                    N-LINKED (GLCNAC...)
/FTId=CAR 000014.
O-LINKED (GALNAC...)
/FTId=CAR 000015.
/FTId=CAR 000015.
CHARGE RELAY SYSTEM.
                                                                                                                                                                                                                                                                                                                                                                         8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PLASMINOGEN.
PLASMIN HEAV
                                                                                                                                                                                                                                                                                                                                                                                           Score 415;
Pred. No. 5
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KRINGLE 3.
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KRINGLE
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N-LINKED (GLCNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          KRINGLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                KRINGLE
                                                                                                                       PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                     38A6AA691E220946 CRC64;
                                                                                                                                                                                                                                                                                                                                                                             Mismatches
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LIGHT
                                                                                                                       790
                                        update)
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5.5e-37;
9;
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                                                                                                                                                                                                                                                                                                                                                                                                               Length 812;
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InterPro; IPR001314; Chymotrypsin.
InterPro; IPR001001; Kringle.
InterPro; IPR003014; pAN.
InterPro; IPR003016; PAN.
InterPro; IPR003609; Pan app.
InterPro; IPR001264; Ser protease_Try.
Pfam; PF00051; kringle; 5.
Pfam; PF00084; PAN; 1.
Pfam; PF00084; PAN; 1.
PRINTS; PR00018; KRINGLE.
PRINTS; PR00018; KRINGLE.
PRINTS; PR00018; KRINGLE.
PRINTS; PR00018; KRINGLE.
PRINTS; PRO1505; PROTHROMBIN.
PRODOM; PD000395; Kringle; 5.
SMART; SM00130; KR; 5.
SMART; SM00473; PAN AP; 1.
SMART; SM00020; Tryp_SPC; 1.
PROSITE; PS00021; KRINGLE 1; 5.
PROSITE; PS00070; KRINGLE 2; 5.
PROSITE; PS50240; TRYPSIN_DOM; 1.
PROSITE; PS50240; TRYPSIN_HIS; FALSE_NEG.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     plasminogen. Species specificity in relation to sialylation and fucosylation patterns.";
Eur. J. Biochem. 173:57-63(1988).

-i. FUNCTION: PLASMIN DISSOLVES THE FIBRIN OF BLOOD CLOTS AND ACTS AS A PROTEOLYTIC FACTOR IN A VARIETY OF OTHER PROCESSES INCLUDING EMBRYONIC DEVELOPMENT, TISSUE REMODELING, TUNOR INVASION, AND INFLAMMATION; IN OVULATION IT WEAKENS THE WALLS OF THE GRAAFIAN FOLLICLE. IT ACTIVATES THE UROXINASE-TYPE PLASMINOGEN ACTIVATOR, COLLAGENASES AND SEVERAL COMPLEMENT ZYMOGENS, SUCH AS C1 AND C5. IT CLEAVES FIBRIN, FIBRONECTIN, THROMBOSPONDIN, LAMININ AND VON WILLEBRAND FACTOR.

-i. CATALYTIC ACTIVITY: Preferential cleavage: Lys-|-xaa > Arg-|-xaa; higher selectivity than trypsin. Converts fibrin into soluble
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sus scrofa
Eukaryota;
Mammalia; E
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CARBOHYDRATE-LINKAGE SITES.

MEDLINE=88183329; PubMed=3356193;

MARTITUS=88183329; PubMed=3356193;

MARTITUS=88183329; PubMed=356193;

MEDLINE=88183329; PubMed=356193;

MEDLINE=88183329; PubMed=356193;

MEDLINE=88183329;

MEDLINE=8818329;

MEDLINE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE OF 1-560.
Schaller J., Marti T., Roesselet S.J., Kaempfer U., Rickli E.B. "Amino acid sequence of the heavy chain of porcine plasmin. Cor of the carbohydrate attachment sites with the human and bovine species.";
Fibrinolysis 1:91-102(1987).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NCBI_TaxID=9823;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -
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ENZYME REGULATION: CONVERTED INTO PLASMIN BY PLASMINOGEN
ENZYME REGULATION: CONVERTED INTO PLASMIN BY PLASMINOGEN
ACTIVATORS, BOTH PLASMINOGEN AND ITS ACTIVATOR BEING BOUND TO
FIBRIN. CANNOT BE ACTIVATED WITH STREPTOKINASE.
PTM: N-LINKED GLYCAN CONTAINS N-ACETYLLACTOSAMINE, SIALIC ACID
IS CORE FUCOSYLATED. O-LINKED GLYCANS CONSIST OF GAL-GALMAC
DISACCHARIDE WITH IS MODIFIED WITH UP TO 2 SIALIC ACID RESIDUES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (MICROHETEROGENEITY).
MISCELLANEOUS: PLASMIN IS INACTIVATED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 S03733; PLPG
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Eutheria;
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Cetartiodactyla; Suina; Suidae;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            bovine
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Sus.
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n. Comparison
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Best Local
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P20918; QBCIS2; Q91WJ5;
01-FEB-1991 (Rel. 17, Cr.
15-SEP-2003 (Rel. 42, Las
15-SEP-2003 (Rel. 42, Las
                                                                                                                                                                                                                                                                                Brathwaite M., I
Nagaraja R.;
"Genomic sequeno
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ACT_SITE
ACT_SITE
ACT_SITE
CARBOHYD
Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,
Klausner R.D., Collins P.S., Wagner L., Shenmen C.M., Schuler G.D.,
Altschnl S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,
Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,
Brownstein M.J., Uddin T.B., Toshiyuki S., Carninci P., Prange C.,
Raha S.S., Loquellano N.A., Peters G.J., Abrammon R.D., Mullahy S.J.,
Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MOUSE
                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.

MEDLINE=91184812; PubMed=2081600;

Degen S.J., Bell S.M., Schaefer L.A., Elliott

"Characterization of the cDNA coding for mous

localization of the gene to mouse chromosome

Genomics 8:49-61(1990).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CHAIN
                                                                                                                                                                               PubMed=12477932;
                                                                                                                                                                                                                                                                Submitted
                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NCBI_TaxID=10090;
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                                                                                                                                                                                                                        SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mus musculus
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              356
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              remodeling;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PWCFTTDPSIRWEYCNLTRCSDTEGTV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RQCYHGNGQSYRGTFSTTVTGRTCQSWSSMTPHRHQRTPENYPNDGLTMMYCRNPDADTG
                                                                                                                                                                                                                                                                                    sequence
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560
790
790
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73.6%;
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Last annotation update)
(EC 3.4.21.7) [Contains: Angiostatin]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Created)
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                                                                                                                                                                                                                                                                                                                         Qian
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KRINGLE 2.
KRINGLE 3.
KRINGLE 4.
KRINGLE 4.
CHARGE RELAY SYSTEM.
CHARGE RELAY SYSTEM.
CHARGE RELAY SYSTEM.
N-LINKED (GLCNAC. . .).
                                                                                                                                                                                                                                                             in the mouse t-complex region."; EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Plasma;
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Pred. No. 1.7e-35;
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O-LINKED (GALNAC. . .).
/FTId=CAR_000020.
F04EA06E74BCD58E CRC64;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ulation; Kringle; Zymogen; PLASMIN HEAVY CHAIN A. PLASMIN LIGHT CHAIN B.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Craniata; Vertebrata; | Sciurognathi; Muridae;
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n; Kringle; Zyr
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mogen; Repeat.
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A PROTEOLYTIC PACAMIN DISSOLVES THE FIBRIN OF BLOOD CLOTS AND ACTS AS A PROTEOLYTIC PACTOR IN A VARIETY OF OTHER PROCESSES INCLUDING EMBRYONIC DEVELOPMENT, TISSUE REMODELING, TUMOR INVASION, AND INFLAMMATION; IN OVULATION IT MEDAKENS THE WALLS OF THE GRAAFIAN FOLLICLE. IT ACTIVATES THE UROKINASE-TYPE PLASMINOGEN ACTIVATOR, COLLAGENASES AND SEVERAL COMPLEMENT ZYMOGENS, SUCH AS C1 AND C5. IT CLEAVES FIBRIN, FIBRONECTIN, THROMBOSPONDIN, LAMININ AND VON WILLEBRAND FACTOR.

-IPRICATION: ANGIOSTATIN IS AN ANGIOGENESIS INHIBITOR THAT BLOCKS NEOVASCULARIZATION AND GROWTH OF EXPERIMENTAL PRIMARY AND METASTATIC THYORRS IN VIVO.

-IC CATALYTIC ACTIVITY: Preferential cleavage: Lys-|-Xaa > Arg-|-Xaa; higher selectivity than trypsin. Converts fibrin into soluble
                                                                                                                                                                                                                                                                                                  EMBL; J04766; AAA50168.1; --
EMBL; AF481053; AAM22156.1; --
EMBL; BC014773; AAA114773.1; --
EMBL; AY134430; AAN15805.1; --
EMBL; AY134430; AAN15805.1; --
EMBL; A38514; PLMS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CHARACTERIZATION OF ANGIOSTATIN, AND PARTIAL SEQUENCE.
MEDLINE=95042728; PubMed=7525077;
O'Reilly M.S., Holmgren L., Shing Y., Chen C., Rosenthal R.
MOBES M., Lane W.S., Cao Y., Sage B.H., Folkman J.;
"Angiostatin: a novel angiogenesis inhibitor that mediates suppression of metastases by a Lewis lung carcinoma.";
Cell 79:315-328(1994).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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Parmer R.J., Miles L.A.;
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                                                                                                                                                                                                                                   MEROPS;
PRODUCTS.

ENZYME REGULATION: CONVERTED INTO PLASMIN BY PLASMINOGEN
ENZYME REGULATION: CONVERTED INTO PLASMIN BY PLASMINOGEN
ACTIVATORS, BOTH PLASMINOGEN AND ITS ACTIVATOR BEING BOUND TO
FIBRIN. CANNOT BE ACTIVATED WITH STREPTOKINASE.
MISCELLANEOUS: PLASMIN IS INACTIVATED BY ALPHA-2-ANTIPLASMIN
IMMEDIATELY AFTER DISSOCIATION FROM THE CLOT.
MISCELLANEOUS: IN THE PRESENCE OF THE INHIBITOR, THE ACTIVATION
INVOLVES ONLY CLEAVAGE AFTER ARG-581, RESULTING IN 2 CHAINS HELD
TOGETHER BY 2 DISULFIDE BONDS. WITHOUT THE INHIBITOR, THE
ACTIVATION INVOLVES ALSO REMOVAL OF THE ACTIVATION PEPTIDE.
SIMILARITY: BELONGS TO PEPTIDASE FAMILY S1. PLASMINOGEN SUBFAMILY.
SIMILARITY: Contains 5 kringle domains.
                                                                                                                                                                                                                                                                        P00747; 1PMK.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TISSUE=Liver;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      mediating con expression.";
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Matches 63
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SMART; SM00020; Tryp SPc; 1.

PROSITE; PS00021; KRINGLE 1; 5.

PROSITE; PS50070; KRINGLE 2; 5.

PROSITE; PS50240; TRYPSIN DOM; 1.

PROSITE; PS00134; TRYPSIN HIS; 1.

PROSITE; PS00135; TRYPSIN SER; 1.

PROSITE; PS00135; TRYPSIN SER; 1.

PROSITE; PS00135; TRYPSIN SER; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Pfam; PF00089; trypsin; 1.
PRINTS; PR00722; CHYMOTRYPSIN.
PRINTS; PR00018; KRINGLE.
PRINTS; PR01505; PROTHROMBIN.
ProDom; PD000395; Kringle; 5.
SMART; SM00130; KR; 5.
                                                                                        CONFLICT
CONFLICT
SEQUENCE
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Tissue remo
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DISULFID
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CHAIN
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SIGNAL
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InterPro; IPR003966; Prothrombin.
InterPro; IPR001254; Ser_protease_Try.
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PF00024; PAN; 1.
  63;
                    Similarity
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                                                                                        Conservative
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                                                                                          649 ;
90781 MW;
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                         76.5%;
70.8%;
  14;
                                                                                                           CHARGE RELAY SYS
EY SIMILARITY.
BY SIMILARITY.
                         Score
Pred.
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PLASMIN LIGHT CHAIN
KRINGLE 1.
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PLASMIN HEAVY CHAIN
                                                                                        R -> H (IN REF. 1).
3 -> D (IN REF. 1).
3 -> L (IN REF. 1).
24173260E6A2FFD2 C
                         400;
No. 2
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E RELAY SYSTEM
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n; Kringle; Zymogen; Repeat;
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                         DB 1;
.3e-35;
                                                                                                                                                                                                                                                                           SIMILARITY).
      12;
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                                              Length 812;
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RESULT 8
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Pfam; PF00
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                                                                                                                  EMBL; U33171; AAC48717.1; -. PIR; 146260; I46260. HSSP; P00747; 1PMK.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDLINE=96025778; PubMed=7592597;
Lawn R.M., Boonmark N.W., Schwartz K., Lindahl G.E., Wade D.P.,
Byrne C.D., Fong K.J., Meer K., Patthy L.;
"The recurring evolution of lipoprotein(a). Insights from cloning
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Q29485;
01-NOV-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Lawn
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Mammalia; Eutheria;
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28-FEB-2003
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              hedgehog apolipoprotein(a).";
J. Biol. Chem. 270:24004-24009(1995).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TISSUE=Liver;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A.
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                                                                InterPro;
                                                                                         (nterPro;
                                                                                                        MEROPS; S01
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                                                                             [nterPro;
                                                                                                                                                                                                                                                                       Products

ENZYME REGULATION: CONVERTED INTO PLASMIN BY PLASMINOGEN
ENZYME REGULATION: CONVERTED INTO PLASMIN BY PLASMINOGEN
ACTIVATORS, BOTH PLASMINOGEN AND ITS ACTIVATOR BEING BOUND TO
PIBRIN. CANNOT BE ACTIVATED WITH STREPTOKINASE.

MISCELLANEOUS: PLASMIN IS INACTIVATED BY ALPHA-2-ANTIPLASMIN
IMMEDIATERLY AFTER DISSOCIATION FROM THE CLOT.

SIMILARITY: BELONGS TO PEPTIDASE FAMILY S1. PLASMINOGEN SUBFAMILY.
SIMILARITY: Contains 5 kringle domains.
                                                                                                                                                                                                                                                                                                                                                                                      CATALYTIC ACTIVITY: Preferential cleavage: Lys-|-Xaa > Arg-|-Xaa; higher selectivity than trypsin. Converts fibrin into soluble
                                                                                                                                                                                                                                                                                                                                                                                                                 LAMININ AND VON WILLEBRAND FACTOR.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         434
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           ; IPR003966; Prochrombin.
; IPR001254; Ser prot-
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           europaeus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (Rel. 35, Created)
(Rel. 35, Last sequence up
(Rel. 41, Last annotation
precursor (EC 3.4.21.7).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (Western European hedgehog).
Chordata; Craniata; Vertebrata; Euteleostomi;
Insectivora; Erinaceidae; Erinaceinae; Erinaceus.
           Ser_protease_Try.
le; 5.
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Q01177;
01-APR-1993
01-APR-1993
28-FEB-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DOMAIN
DOMAIN
DOMAIN
DOMAIN
ACT_SITE
ACT_SITE
ACT_SITE
CARBOHYD
SEQUENCE
Kanalas J.J., Makker S.P.;

"Identification of the rat Heymann nephritis autoantigen (GP330) at receptor site for plasminogen.";

J. Biol. Chem. 266:10825-10829(1991).

-!- FUNCTION: PLASMIN DISSOLVES THE FIBRIN OF BLOOD CLOTS AND ACTS A PROTEBLYFIC FACTOR IN A VARIETY OF OTHER PROCESSES INCLUDING EMBRYONIC DEVELOPMENT, TISSUE REMODELING, TUMOR INVASION,

AND INFLAMMATION; IN OVULATION IT WEAKENS THE WALLS OF THE GRAAFIAN FOLLICLE. IT ACTIVATES THE UROKINASE-TYPE PLASMINOGEN ACTIVATOR, COLLAGENASES AND SEVERAL COMPLEMENT ZYMOGENS, SUCH AS C1 AND C5. IT CLEAVES FIBRIN, FIBRONECTIN, THROMBOSPONDIN,
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SIGNAL
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SMART; SM00020; Tryp_SPc; 1.
SMART; SM00020; KRINGLE 1; 5.
PROSITE; PS00021; KRINGLE 2; 5.
PROSITE; PS50240; TRYPSIN_DOM; 1.
PROSITE; PS50240; TRYPSIN_HIS; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRINTS; PR00722; CHYMOTRYPSIN
PRINTS; PR00018; KRINGLE.
PRINTS; PR01505; PROTHROMBIN.
Prolom; PD000395; Kringle; 5.
SMART; SM00130; KR; 5.
                                                                                                                                 SEQUENCE FROM N.A. TISSUE=Liver;
                                                                                                                                                                            Eukaryota; Metazoa; Chordata; Mammalia; Eutheria; Rodentia;
                                                                                                                                                                                                 Rattus norvegicus
                                                                                                                                                                                                                       Plasminogen
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                                                                                                                       MEDLINE=91250378; PubMed=1645711;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             issue
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275
379
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622
760
339
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103
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(Rel. 25, Last sequence update)
(Rel. 41, Last annotation updat
(EC 3.4.21.7) (Fragment).
                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AA;
                                                                                                                                                                                                                                                                              STANDARD;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            protease; Plasma; G
; Blood coagulation;
                                                                                                                                                                                                  (Rat)
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                                                                                                                                                                                                                                                                                                                                                                                                                                 75.0%;
71.8%;
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KRINGLE 5.
CHARGE RELAY SYSTEM.
CHARGE RELAY SYSTEM.
CHARGE RELAY SYSTEM.
N-LINKED (GLCNAC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Plasma; Glycoprotein; Fibrinolysis; agulation; Kringle; Zymogen; Repeat;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SERINE PROTEASE.
KRINGLE 1.
KRINGLE 2.
KRINGLE 3.
                                                                                                                                                                                                                                                                                                                                                                                                                             Score 392; ub .,
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                                                                                                                                                                            Craniata; Vertebrata; Euteleostomi; Sciurognathi; Muridae; Murinae; Rat
                                                                                                                                                                                                                                                                              PRT;
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Best Local
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         01-AUG-1992 (Rel. 2
01-AUG-1992 (Rel. 2
15-SEP-2003 (Rel. 4
Hepatocyte growth f
stimulatory protein
MST1 OR HGFL
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P26928;
01-AUG-1992
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PROSITE; PS00021; KRINGLE 1; 1.

PROSITE; PS50070; KRINGLE 2; 2.

PROSITE; PS50240; TRYPSIN DOM; PARTIAL.

PROSITE; PS00134; TRYPSIN SER; PARTIAL.

PROSITE; PS00135; TRYPSIN SER; PARTIAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          InterPro; IPR000001; Kringle.
InterPro; IPR003966; Prothrombin.
InterPro; IPR001354; Ser protease_Try.
Pfam; PF00051; kringle; 2.
PRINTS; PR00018; KRINGLE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            This SWISS-PROT entry is copyright. It is produced through a collaboratio between the Swiss Institute of Bioinformatics and the EMBL outstation the Buropean Bioinformatics Institute. There are no restrictions on it use by non-profit institutions as long as its content is in no wa modified and this statement is not removed. Usage by and for commercia entities requires a license agreement (See http://www.isb-sib.ch/announce or send an email to license@isb-sib.ch).
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PRINTS; PR01505; PROTHROMBIN
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- ENZYME REGULATION: CACTIVATORS, BOTH PLATERIN. CANNOT BE AC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LAMININ AND VON WILLEBRAND FACTOR. CATALYTIC ACTIVITY: Preferential chigher selectivity than trypsin.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MISCELLANEOUS: PLASMIN IS INACTIVATED BY ALPHA-2-ANTIPLASMIN IMMEDIATELY AFTER DISSOCIATION FROM THE CLOT. SIMILARITY: BELONGS TO PEPTIDASE FAMILY S1. PLASMINOGEN SUBFAMILY.
 musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SIMILARITY: Contains 5 kringle domains.
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                                     23, Created)
23, Last sequence update)
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42, Last annotation update)
factor-like protein precursor (Macrophage
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112
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71.9%;
                          (MSP).
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trypsin. Converts fibrin into soluble
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KRINGLE
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1.9e-34;
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KRINGLE KRINGLE HEPATOCYTE PAP. protease POTENTIAL.

19 110 110 191 292 379 489 56 60 110 1131 157

18 716 109 186 268 268 370 457 716 716 186 186 186

KRINGLE 3.

KRINGLE 4.

SERINE PROTEASE-LIKE.

SERINE PROTEASE-LIKE.

BY SIMILARITY.

BY SIMILARITY.

BY SIMILARITY.

BY SIMILARITY.

BY SIMILARITY.

BY SIMILARITY.

Glycoprotein;

Serine

homolog; Repeat; Signal.

GROWTH

FACTOR-LIKE PROTEIN

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PEAM; PF00051; Kringle; 4.

PEAM; PF00024; PAN; 1.

PEAM; PF00024; PAN; 1.

PEAM; PF000089; Trypsin; 1.

PEAM; PF000089; Trypsin; 1.

PRINTS; PR00712; CHYMOTRYPSIN.

PRINTS; PR001505; PROTHHOMBIN.

PRODOM; PD000395; Kringle; 4.

SMART; SM00130; KR; 4.

SMART; SM00473; PAN_AP; 1.

SMART; SM00473; PAN_AP; 1.

PROSITE; PS00021; KRINGLE 1; 4.

PROSITE; PS00021; KRINGLE 2; 4.

PROSITE; PS00020; TRYPSIN_DOM; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EMBL; M74180; AAA5016
EMBL; M74181; AAA5016
PIR; A40332; A40332.
HSSP; P00747; 1KRN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STRAIN=BALB/C; TISSUE=Liver;

MEDILINE=92002017; PubMed=1833957;

Priezner Degen S.J., Stuart L.A., Han S., Jamison C.S.;

"Characterization of the mouse cDNA and gene coding for a growth factor-like protein: expression during development.

Biochemistry 30:9781-9791(1991)

-I-FUNCTION: PROBABLY HAS NO PROTEOLYTIC ACTIVITY, SINCE CHARACTERISTIC OF SERINE PROTEASES CATALYTIC SITES ARE
                                                                                                                                                                                                                                                                                                                                                                                       InterPro;
InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  the European Bioinformatics Institute. The use by non-profit institutions as long modified and this statement is not removed. entitles requires a license agreement (See or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                              MEROPS; S01.975; -.
MGD; MGI:96080; Mst1.
InterPro; IPR001314; Chymotrypsin.
InterPro; IPR000001; Kringle.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
                                                                                                                                                                                                                                                                                                                                                             InterPro; IPR003966; Prothrombin.
InterPro; IPR001254; Ser_protease
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STRAIN=BALB/c; TIS
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SIMILARITY: Contains
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PTM: MAY BE CLEAVED AFTER AA 488,
HELD TOGETHER BY DISULFIDE BONDS,
POLYPEPTIDES.
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TISSUE SPECIFICITY: LIVER. LOWER LEVELS IN LUNG,
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IPR003609; Pan_app
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AAA50167.1; -.
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HGF HUMAN
STANUALL,
P14210; Q9BYL9; Q9UDU6;
O1-JAN-1990 (Rel. 13, Created)
O1-AUG-1991 (Rel. 19, Last sequence update)
15-SEP-2003 (Rel. 42, Last annotation update)
15-SEP-2003 (Rel. 42, Last annotation update)
TISSUB-Leukocyte;

TISSUB-Leukocyte;

MEDLINE=91025062; PubMed=2145836;

MEDLINE=91025062; PubMed=2145836;

Seki T., Ihara I., Sugimura A., Shimonishi M., Nishizawa Seki T., Hagiya M., Nakamura T., Shimizu S.;

"Isolation and expression of cDNA for different forms of growth factor from human leukocyte.";

growth factor from human leukocyte.";
                                                                                                                                                                                                                                                                                                                                                                                   HUMAN
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CARBOHYD
                                                                                                                                                                                                         SEQUENCE FROM N.A.
MEDLINE=913401.55; PubMed=1831432;
Seki T. Hagiya M. Shimonishi M., Nak
"Organization of the human hepatocyte
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CARBOHYD
CONFLICT
                                                                                                                           MEDLINE-8392017; PubMed-2528952;
Miyazawa K., Tsubouchi H., Naka D.,
Arakaki N., Nakayama H., Hirono S.,
Gohda E., Daikuhara Y., Kitamura N.
                                                                                                                                                                                                                                                                               Eukaryota;
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                                                                             SEQUENCE FROM N.
                                                                                                                    "Molecular
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                                                                                                         ular cloning and factor.";
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                                                                                                                                                                                                                                                                     Eutheria;
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Catarrhini;
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Sakiyama O.,
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X-RAY CRYSTALLOGRAPHI (2.0.1.2.1)

MEDLINE-99036958; PubMed-9817840;

Ultsch M., Lokker N.A., Godowski P.J., de Vos A.M.;

"Crystal structure of the NK1 fragment of human hepatocyte gr
factor at 2.0-A resolution.";

Structure 6:1363-1393(1998).

-I- FUNCTION: HGF IS A POTENT MITOGEN FOR MATURE PARENCHYMAL

-I- FUNCTION: HGF IS A POTENT MITOGEN FOR TISSUES AND CELL

HEPATOCYTE CELLS, SEEMS TO BE AN HEPATOTROPHIC FACTOR, AI
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SEQUENCE FROM N.A.,
TISSUE=Liver;
MEDLINE=90066676; I
                                                                                                                                                                                                                                        "Structure-function analysis of hepatocyte identification of variants that lack mitoge high affinity receptor binding."; EMBO J. 11:2503-2510(1992).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SIGNAL SEQUENCE CLEAVAGE SITE.

SIGNAL SEQUENCE CLEAVAGE SITE.

MEDLINE=91207365; PubMed=1826837;

Yoshiyama Y., Arakakai N., Naka D., Takahashi K., Hiron
Nakayama H., Gohda E., Kitamura N., Tsubouchi H., Ishii
Hishida T., Daikuhara Y.;

"Identification of the N-terminal residue of the heavy
native and recombinant human hepatocyte growth factor."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TISSUB-Embryonic fibroblast;
MEDLINE-91334393; PubMed=1831266;
Weidner K.M., Arakaki N., Hartmann G.,
Rieder H., Fonatsch C., Tsubouchi H.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Nakamura T., Nishizawa T., Hagiya M., Sugimura A., Tashiro K., Shimizu S., "Molecular cloning and expression of I Nature 342:440-443(1989).
                                                                                                                                                                                                    STRUCTURE BY NMR OF 31-127.
MEDLINE=98154323; PubMed=94
                                                                                                                                                                                                                                                                                           MEDLINE=92331602; PubMed=1321034;
Lokker N.A., Mark M.R., Luis E.A.,
Baker J.B., Godowski P.J.;
                                                                                                                                                                                                                                                                                                                                                                        "Hepatocyte growth factor on the alpha chain.";
                                                                                                                                                                                                                                                                                                                                                                                                Shimizu N., Hara H.,
Nakamura T., Shimizu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Miyazawa K., Kitamura A., Kitamura N.; "Structural organization and the transcription human hepatocyte growth factor gene.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Submitted
                                                                                                                                  MEDLINE-98154323; PubMed-9493272; Zhou H., Mazzulla M.J., Kaufman J.D., Stahl S.J., Rubin J.S., Bottaro D.P., Byrd R.A.; "The solution structure of the N-terminal domain factor reveals a potential heparin-binding site." Structure 6:109-116(1998).
                                                                                                                                                                                                                                                                                                                                                                                                                           MEDLINE=93129192;
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PubMed=1832556;
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175:660-667(1991)
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Hishida T., Daikuhara Y.,
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                                                                                                                                              Genew; HGNC:4893; HGF.
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L; D90320; BAA14348.1; J

JL; D90322; BAA14348.1; J

BL; D90323; BAA14348.1; J

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MBL; D90326; BAA14348.1;

MBL; D90326; BAA14348.1;
                                                                                                                                                                 IT HAS NO DETECTABLE PROTEASE ACTIVITY. SUBUNIT: DIMER OF AN ALPHA CHAIN AND A DISULFIDE BOND.
SIMILARITY: BELONGS TO PEPTIDASE FAMILY SIMILARITY: Contains 4 kringle domains.
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6 outstation -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ВУ
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RESULT 12

HGF MOUSE

ID HGF MOUSE

AC 008048; Q61

AC 008048; Q62

AC 008048;
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Best Local S
Matches 42
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DOMAIN
DISULFID
DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Growth f
Signal;
SIGNAL
  MEDLINE=94060105; PubMed=8241272;
Liu Y., Michalopoulos G.K., Zarnegar R.;
"Molecular cloning and characterization of cDNA encoding mous hepatocyte growth factor.";
Biochim. Biophys. Acta 1216:299-303(1993).
-i- FUNCTION: HGF IS A POTENT MITOGEN MATURE PARENCHYMAL-
HEPATOCYTE CELLS, SEEMS TO BE AN HEPATOTROPHIC FACTOR, AN GROWTH FACTOR FOR A BROAD SPECTRUM OF TISSUES AND CELL TY HAS NO DETECTABLE PROTEASE ACTIVITY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Q08048; Q61662; Q64007;
01-NOV-1995 (Rel. 32, Created)
01-NOV-1995 (Rel. 32, Last sequence update)
28-FEB-2003 (Rel. 41, Last annotation update)
Hepatcoyte growth factor precursor (Scatter f.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CHAIN
CHAIN
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                                                                                                                                                                                                                                                                                                                                                                                                                               Sasaki M., Nishio M., Sasaki T., Enami J.;
"Identification of mouse mammary fibroblast-derived factor as hepatocyte growth factor.";
"Identification of mouse mammary fibroblast factor as hepatocyte growth factor.";
                                                                                                                                                                                                                                                                                            MEDLINE=94363381; PubMed=8081873;
Lee C.C., Kozak C.A., Yamada K.M.;
"Structure, genetic mapping, and expression
                                                                                                                                                                                                                                                                                                                                                                                                                Biochem. Biophys. Res.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TISSUE=Mammary fibroblast;
MEDLINE=94183257; PubMed=8135822;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A. (ISOFORMS LONG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mus musculus (Mouse).
                                                                                                                                                                                          TISSUE=Liver;
                                                                                                                                                                                                             SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                     Cell Adhes.
                                                                                                                                                                                                                                                                                         "Structure,
                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A.
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E; PS50240; TRYPSIN_DOM; 1.
factor; Kringle; Glycoprotein;
; 3D-structure; Polymorphism; P;
                                                                                                                                                                                                                                                                        gene
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42; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                      Commun.
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SERINE P
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Pred. No. 2.3e-21
9; Mismatches 3
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PYRROLIDONE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Craniata; Vert
Sciurognathi;
                                                                                                                                                                                                                                                                                                                                                                                                                         199:772-779(1994).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 290
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Pyrrolidone carboxylic aci
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Query Match
Best Local Similarity
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PRINTS; PRO0018; KRINGLE.

PRODOM; PD000395; Kringle; 4.

SMART; SM00130; KR; 4.

SMART; SM00473; PAN AP; 1.

SMART; SM00020; Tryp SPc; 1.

PROSITE; PS00021; KRINGLE 1; 4.

PROSITE; PS0070; KRINGLE 2; 4.

PROSITE; PS50240; TRYPSIN DOM; 1.

GROWTH factor; Kringle; Glycoprotein; Se
                                                                            CONFLICT
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InterPro; IPR001314; Chymotrypsin.
InterPro; IPR000001; Kringle.
InterPro; IPR000001; PAN.
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Pfam; PF00024; PAN; 1.
Pfam; PF00024; PAN; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 EMBL; D10212; BAA01064.1; -.
EMBL; D10213; BAA01065.1; -.
EMBL; S71816; AAB31855.1; -.
EMBL; X72307; CAA51054.1; ALT_INIT.
PIR; X72307; A60185.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MOD_RES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Signal; Alternative SIGNAL 1
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InterPro; IPR003609; Pan_app.
InterPro; IPR001254; Ser_prot
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     the European Bioinformatics Institute. The use by non-profit institutions as long
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the E
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 IsoId=Q08048-2; Sequence=VSP 005408;
-!- SIMILARITY: BELONGS TO PEPTIDASE FAMILY
-!- SIMILARITY: Contains 4 kringle domains.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          modified and this statement is not removed.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DISULFIDE BOND.
ALTERNATIVE PRODUCTS:
Event=Alternative spl
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2; CHYMOTRYPSIN.
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3S TO PEPTIDASE FAMILY S1. PLASMINOGEN SUBFAMILY.
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     Score 263; DB 1;
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V -> L (IN REF. 2).
R -> H (IN REF. 3).
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HEPATOCYTE GROWTH FACTOR ALPHA CHAIN HEPATOCYTE GROWTH FACTOR BETA CHAIN.
                                                                                                                                                                                                                                                                                                                                            SERINE PROTEASE-LIKE.
BY SIMILARITY.
BY SIMILARITY.
INTERCHAIN (BY SIMILARITY).
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                                                                                  A0381FC497534328
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                                                                                                                                                                                     005408.
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                           Length 728;
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I "Primary structure of rat hepatocyte growth factor and induction rits mRNA during liver regeneration following hepatic injury.";

LEUR. J. Blochem. 193:375-381(1990).

C -!- FUNCTION: HGF IS A POTENT MITOGEN FOR MATURE PARENCHYMAL HEPATOCYTE CELLS, SEEMS TO BE AN HEPATOTROPHIC FACTOR, AND AC AS GROWTH FACTOR FOR A BROAD SPECTRUM OF TISSUES AND CELL TYP IT HAS NO DETECTABLE PROTEASE ACTIVITY.

C -!- SUBUNIT: DIMER OF AN ALPHA CHAIN AND A BETA CHAIN LINKED BY A DISULPIDE BOND.

C -!- SUBUNITY: BELONGS TO PEPTIDASE FAMILY S1. PLASMINOGEN SUBFA CI-- SIMILARITY: Contains 4 kringle domains.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Matches
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                                                                                                                                                                                                                                                                                                                                                                                        use by non-profit institutions as long modified and this statement is not removed. entitles requires a license agreement (See or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the Entropean Bioinformatics Institute. There are no restude by non-profit institutions as long as its content
                                                                                                                                                                                                                                                          EMBL; D90102; BAA14133.1; -.
EMBL; X54400; CAA38266.1; -.
PIR; A35644; A35644.
HSSP; P14210; 1BHT.
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STRAIN-Wistar; TISSUE-Liver;
MEDLINE-90222197; PubMed=2139229;
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Shimizu S., Nakamura T.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MEDLINE=91031482; PubMed=2146117;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 "Deduced primary structure of rat hepatocyte growth expression of the mRNA in rat tissues."; Proc. Natl. Acad. Sci. U.S.A. 87:3200-3204(1990).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
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Sciurognathi; Muridae; Murinae; Rattus
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InterPro; IPR001314; Chymotrypsin.
InterPro; IPR000001; Kringle.
InterPro; IPR003014; PAN app.
InterPro; IPR00309; Pan app.
InterPro; IPR001254; Ser_protease_Try.
Pfam; PF00051; kringle; 4.

MEROPS; S01.978; -

Pfam; PF00024; PAN; Pfam; PF00089; tryps

trypsin; 1.

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Matches 41
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SMART; SM00403; KR; 4.

SMART; SM00403; PAN AP; 1.

SMART; SM00020; Tryp SPc; 1.

PROSITE; PS00021; KRINGLE 1; 4.

PROSITE; PS50070; KRINGLE 2; 4.

PROSITE; PS50240; TRYPSIN DOM; 1.

PROSITE; PS50240; TRYPSIN DOM; 1.

SGOWTh factor; Kringle; GTycoprotein; Se Signal; Pyrrolidone carboxylic acid.

SIGNAL 1 32

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                                                                                                                    Han S., Stuart L.A., Friezner Degen S.J.;
"Characterization of the DNF15S2 locus on human chromosome 3:
identification of a gene coding for four kringle domains with
homology to hepatocyte growth factor.";
Biochemistry 30:9768-9780(1991).
                                                                                                                                                                                                                                                                        Eukaryota; Metazoa;
Mammalia; Eutheria;
NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                           HGFL HUMAN STANDARD; PRT; 711 AA.
P26927; Q11350; Q14870;
01-AUG-1992 (Rel. 23, Created)
01-AUG-1992 (Rel. 23, Last sequence update)
28-FEB-2003 (Rel. 41, Last annotation update)
Hepatocyte growth factor-like protein precursor (Mastimulatory protein) (MSP) (Macrophage stimulating
 MEDIINE=93340141; PubMed=8393443;
Yoshimura T., Yuhki N., Wang M.H., Skeel A., I
"Cloning, sequencing, and expression of human
protein (MSP, MSTI) confirms MSP as a member o
                                                                                                                                                                                                                                                                                                                              MST1 OR HGFL.
Homo sapiens (Human)
                                                                  TISSUE-Liver;
                                                                                     SEQUENCE
                                                                                                                                                                                                                                            SEQUENCE FROM
                                                                                                                                                                                                            MEDLINE=92002016; PubMed=1655021;
                                                                                                                                                                                                                             TISSUE=Liver;
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PD000395; Kringle
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sequencing, and exp
MSP, MST1) confirms
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51.2%;
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HEPATOCYTE GROWTH FACTOR BETA CHAIN.

HEPATOCYTE GROWTH FACTOR BETA CHAIN.

EYRROLLDONE CARBOXYLIC ACID

(BY SIMILARITY).
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 ., Skeel A., Leonard E.J.; sion of human macrophage st as a member of the family
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EMBL; U37055; AAC50471.1; -.
EMBL; L11924; AAA59872.1; -.
PIR; A40331; A47136.
HSSP; P00747; 2PK4.
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Genew; HGNC:7380; MST1.
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     PAN.
                                                                                                                                                                                                            SERINE PROTEASE-LIKE.
BY SIMILARITY.
     INTERCHAIN (BY BY SIMILARITY. BY SIMILARITY.
                                                     INTERCHAIN (BY INTERCHAIN (BY INTERCHAITY)
BY SIMILARITY
                                                                                                                                                                                                                                                                                                                                  KRINGLE
KRINGLE
KRINGLE
KRINGLE
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proteins and locates the MSP gene on chromosome J. Biol. Chem. 268:15461-15468(1993). -i- FUNCTION: PROBABLY HAS NO PROTECLYTIC ACTIVICHARACTERISTIC OF SERINE PROTEASES CATALYTIC
                                          the European Bioinformatics Institute. The use by non-profit institutions as long modified and this statement is not removed.
entities requires a license agreement (Sor send an email to license@isb-sib.ch).
                                                                                                                                                                                PTM: MAY BE CLEAVED AFTER AA 484, TO YIELD I
HELD TOGETHER BY DISULFIDE BONDS, OR TWO SEL
SIMILARITY: BELONGS TO PEPTIDASE FAMILY S1.
SIMILARITY: Contains 4 kringle domains.
                                                                                                              SWISS-PROT entry is copyright. It is produced through a centre the Swiss Institute of Bioinformatics and the EMBL
                                                                                                                                                                                                                                                                                                  PROTEOLYTIC ACTIVITY, SINCE PROTEASES CATALYTIC SITES ARI
                            (See http://www.isb-sib.ch/announce/
                                                                    There are no rest
                                                                                                                                                                                                          YIELD A TWO-CHAIN MOLECULE TWO SEPARATE POLYPEPTIDES. ILY S1. PLASMINOGEN SUBFAMILY.
                                                 Usage
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Pfam; PF00051; kringle; 4.

Pfam; PF00024; PAN; 1.

Pfam; PF00089; trypsin; 1.

Pfam; PF00089; trypsin; 1.

PRINTS; PR00072; CHYMOTRYPSIN.

PRINTS; PR00018; KRINGLE.

PRINTS; PR01505; PROTHROMBIN.

PRODOm; PD000395; Kringle; 4.

SWART; SW00130; KR; 4.

SWART; SW00473; PAN_AP; 1.

SWART; SW00473; PAN_AP; 1.

PROSITE; PS00021; Tryp_SPC; 1.

PROSITE; PS50070; KRINGLE 1; 4.

PROSITE; PS50240; TRYPSIN DOM; 1.

PROSITE; PS50240; TRYPSIN DOM; 1.

PROSITE; PS50240; TRYPSIN DOM; 1. IPR003609; Pan app.
IPR003966; Prothrombin.
IPR001254; Ser protease_Try.
10051; kringle; 4. IPR001314; Chymotrypsin. IPR000001; Kringle. POTENTIAL. HEPATOCYTE protease homolog; Repeat; Signal; GROWTH FACTOR-LIKE PROTEIN

SIMILARITY).

SIMILARITY).

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RESULT 15
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15-DEC-1998
15-DEC-1998
28-FEB-2003
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SEQUENCE
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DISULFID
CARBOHYD
CARBOHYD
CARBOHYD
                                                Products.

- RENTME REGULATION: CONVERTED INTO PLASMIN BY PLASMINOGEN
ACTIVATORS, BOTH PLASMINOGEN AND ITS ACTIVATOR BEING BOUND TO
FIBRIN. CANNOT BE ACTIVATED WITH STREPTOKINASE.

- MISCELLANBOUS: PLASMIN IS INACTIVATED BY ALPHA-2-ANTIPLASMIN
- IMMEDIATELY AFTER DISSOCIATION FROM THE CLOT.

- I- SIMILARITY: BELONGS TO PEPTIDASE FAMILY S1. PLASMINOGEN SUBFAMILY.
- I- SIMILARITY: Contains at least 2 kringle domains.

PIR: B61545; B61545.
HSSP; P00747; 5HPG.

MEROPS; S01.233; -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SHEEP
                                                                                                                                                                                                                                                                                                                                                      Eukaryota; Metazoa; Chor
Mammalia; Eutheria; Ceta
Bovidae; Caprinae; Ovis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  VARIANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       VARIANT
                                                                                                                                                                                                                                                                                                                                                                                        Ovis aries (Sheep).
                                                                                                                                                                                                                                                                                                                                                                                                            Plasminogen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PLMN SHEEP
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                                                                                                                                                                                                                                                                                                              MEDLINE=93149995; PubMed=1492092;
                                                                                                                                                                                                                                                                                                                           SEQUENCE
                                                                                                                                                                                                                                                                                                                                           NCBI_TaxID=9940;
                                 InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              368 QDCYHGAGEQYRGTVSKTRKGVQCQRWSAETPHKPQFTFTSEPHAQLEENFCRNPDGDSH 427
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     428 GPWCYTMDPRTPFDYCALRRCADDQ 452
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        43;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         61 GPWCFTTDPSIRWEYCNLTRCSDTE 85
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2 RQCYHGNGQSYRGTFSTTVTGRTCQSWSSMTPHRHQRTPENYPNDGLTMNYCRNPDADT- 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Similarity
IPR001314; Chymotrypsin.
IPR0010001; Kringle.
IPR003966; Prothrombin.
IPR001254; Ser_protease_Try.
D0051; kringle; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  711 AA;
                                                                                                                                                                                                                                                                                                                                                                                                           (Rel. 37, Created)
(Rel. 37, Last sequence update)
(Rel. 41, Last annotation update)
(EC 3.4.21.7) (Fragment).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            623
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                                                                                                                                                                                                                                                                                                                                                                  Chordata; Craniata; Vertebrata; Euteleostomi; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  80379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   50.6%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            BY SIMILARITY.
BY SIMILARITY.
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N-LINKED (GLCNAC...
N-LINKED (GLCNAC...
Y-> C.
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E -> K (IN dbSNP:7798).
/FTId=VAR_014569.
L -> F (IN REF. 2).
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Best Local S
Matches 41
                                                                                                                                                         DOMAIN
DOMAIN
ACT_SITE
ACT_SITE
ACT_SITE
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SEQUENCE
                                                                                                                                                                                                                            PRINTS; PR00722; CI
PRINTS; PR00018; KI
PRINTS; PR01505; PI
ProDom; PD000395; I
                                                                                                                                                 Tissue I
NON TER
DOMAIN
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DOMAIN
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75
              62
                            15
                                         4.
                                                             Similarity
PWCYTTNPRKLFDYCDIPQCESS
              PWCFTTDPSIRWEYCNLTRCSDT
                            CMLGIGKGYRGKKATTVAGVPCQEWAAQEPHRHGIFTPETNPRAGLEKNYCRNPDGDVNG
                                         CYHGNGQSYRGTFSTTVTGRTCQSWSSMTPHRHQ-RTPENYPNDGLTMNYCRNPDAD-TG
                                                                                   343 AA;
                                                                                         141
141
41
114
114
181
224
319
343
                                                        Conservative
                                                                                                                                                                                                                                    PROTHROMBIN.
                                                                                                                                                                                                                                            KRINGLE.
                                                                                                                                                                                                                                                  CHYMOTRYPSIN
                                                                                          140
>343
17
120
341
181
224
343
                                                             44.7%;
                                                                                   37662 MW;
                                                      ; Score 234; DB 1;
; Pred. No. 5.8e-18;
12; Mismatches 28
                                                                                               SERINE PROTEASE.
CHARGE RELAY SYSTEM.
CHARGE RELAY SYSTEM.
CHARGE RELAY SYSTEM.
                                                                                                                            HEAVY CHAIN A.
LIGHT CHAIN A.
KRINGLE 4.
KRINGLE 5.
                                                                                   8DF6EBA92D596EE0 CRC64;
 97
              84
                                                                    Length 343;
                                                        Indels
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2;

Search completed: January 12, 2004, 17:23:57 Job time: 7.69549 secs

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Result
No.
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Maximum Match 100%
Listing first 45 summaries
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Maximum DB
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          OM protein - protein search, using sw model
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Seq
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                                                                                                                                                                                       Match
                                                                                                                                                                                                                                                                                                                       10:
12:
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  SPTREMBL_
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                                                                                                                                                                                                                                                                                                                                                                                                                                                 sp_archea:*
sp_bacteria:*
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sp_mhc:*
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sp_unclassified:*
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sp_virus:*
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  810
132
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716
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                                                                   4444
                                                                Q8WMR1
Q91WJ5
Q28911
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046506
Q15146
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Q28398
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                                                       Q9R0W3
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Oguir5 homo sapien
O46506 papio hamad
Q15146 homo sapien
Q16609 homo sapien
Q9uir7 homo sapien
Q9uir8 homo sapien
Q9uir8 homo sapien
Q9uir6 homo sapien
Q9uir76 mus musculu
Q28911 macaca fasc
Q9r030 rattus norv
O18783 macropus eu
Q28398 erinaceus e
Q8avbo brachydanio
Q91xg8 mus musculu
Q90zn6 brachydanio
                                                                                                                                                                                       Description
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	a constant	ļ	6			ť
Q8k0q8	08K008	11	801	40.6	212.5	5
Q8av69	Q8AV69	13	930	•	220.5	44
Q8n696 homo	Q8N696	4.	95	42.6	223	43
	Q9UMI2	4	53	•	223	42
Q9h1v4 homo	Q9H1V4	4.	648	44.5	232.5	41
Q07153	Q07153	13	946	45.4	237.5	40
Q90865 gall	Q90865	13	704	45.8	239.5	39
	042341	13	215	46.2	241.5	38
055027	055027	片	211	46.2	241.5	37
ന	Q90978	13	726	46.3	242	36
Q9y1y6 ephydatia	Q9Y1Y6	σ	948	46.6	243.5	ω 5
Q13208 h	Q13208	4.	567	46.6	243.5	4
Q9pu78 crocodylus	Q9PU78	13	313	46.6	243.5	3
P70006 xenopus	P70006	13	717	47.1	246.5	32
Q91402 xenopus.	Q91402	13	710	47.1	246.5	31
Q9n1b8 ovis	Q9N1B8	σ	109	47.1	246.5	30
	Q13494	4	210	47.3	247.5	29
	Q9BYM0	4.	208	47.3	247.5	28
Q8bs17 mus	Q8BS17	11	209	47.7	249.5	27
046507 papio hamad	046507	0	334	48.6	254	26
Q8axy6	Q8AXY6	13	947	٠	255.5	25
Q9bh09 felis silve	Q9ВН09	σ	728	٠	256.5	24
Q91691 xenopus	Q91691	13	716		5	23 .
Q25101 herdmania	Q25101	υ	385	٠	257.5	22
Q14519 homo	Q14519	4	296	49.3	258	21
Q02935 homo	Q02935	4.	290		262	20
Q8tce2 homo	Q8TCE2	4.	285	50.1	262	19
Q8c9g5 mus	Q8C9G5	1	728	50.5	264	18
P70521	P70521	11	716	51.3	268.5	17

ALIGNMENTS

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Query Match
Best Local Similarity
                                                            InterPro; IPRO00001; Kringle.
Pfam; PP00051; Kringle; 1.
PRINTS; PR00018; KRINGLE.
ProDom; PD000395; Kringle; 1.
SMART; SM00130; KR; 1.
PROSITE; P800021; KRINGLE 1; 1.
PROSITE; P850070; KRINGLE 2; 1.
                         NON TER
NON TER
SEQUENCE
                                                                                                                      APOA.
                                                                                                                                                                                                                                                                           O9URRS;
01-MAY-2000 (TrEMBLrel. 13, Created)
01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-MAR-2003 (TrEMBLrel. 23, Last annotation update)
Appolipoprotein(a) (Fragment).
                                                                                                                                                                                                                                         Homo sapiens (Human).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                          Q9UIR5
                                                   Glycoprotein; Kringle; Lipoprotein
                                                                                                                                                                                                                                NCBI_TaxID=9606;
                           113 AA;
                                    113
                                                                                                                                                                                                                                                                                                                          PRELIMINARY;
                 113
12685 MW; F3D65681D9B5253A CRC64;
98.9%;
98.9%;
Score 517; DB 4;
Pred. No. 1.7e-52;
                                                                                                                                                                                                                                                                                                                           113
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         Length 113;
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ACCAMENTARY OF ACCAME
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ID Q1
AC Q1
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                                                 RESULT 3
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Best Local S
Matches 80
                                                                                                                                                                                                                                                                                                                                                      InterPro; IPR001314; Chymotrypsin.

R InterPro; IPR000001; Kringle.

R InterPro; IPR000001; Kringle; 2.

R Pfam; PF00051; Kringle; 2.

R Pfam; PF00089; trypsin; 1.

R PFINTS; PR00018; KRINGLE.

R PRINTS; PR00018; KRINGLE.

R ProDom; PD000395; Kringle; 2.

R ProDom; PD000395; Kringle; 2.

R ProDom; PD000395; Kringle; 2.

R ProSITE; SM00020; Tryp SPc; 1.

R PROSITE; PS00021; KRINGLE 1; 2.

R PROSITE; PS00021; KRINGLE 2; 2.

R PROSITE; PS000135; TRYPSIN_DOM; 1.

R PROSITE; PS00135; TRYPSIN_SER; 1.

R PROSITE; PS00135; TRYPSIN_SER; 1.

R PROSITE; PS00135; TRYPSIN_SER; 1.
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01-JUN-1998
01-MAR-2003
 Q15146;
Q15146;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Submitted (OCT-1997) to the EMBL/GenBank/DDBJ d
-!- SIMILARITY: BELONGS TO PEPTIDASE FAMILY S1.
-!- SIMILARITY: CONTAINS 2 KRINGLE DOMAINS.
EMBL; AF029691; AAB97886.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Cox L.A., Jett C., Hixson J.E.; "Molecular Basis of the Apolipoprotein (a) Null Phenotype: Site Mutation is Associated with Deletion of a Single Exon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Eukaryota; Metazoa; Cho
Mammalia; Eutheria; Pri
Cercopithecinae; Papio.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Papio hamadryas (Hamadryas baboon)
Eukaryota; Metazoa; Chordata; Cran
Mammalia; Eutheria; Primates; Cata
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Apolipoprotein a BABAPOA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NCBI_TaxID=9557;
                                                                                                                                                                                                                                                                                                            SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MEROPS; S01.999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      HSSP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Allele.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 N
                                                                                                      159
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     P00747; 2PK4.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8
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                                                                                                                                      13
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       88;
                                                                                                                                                                                         1 VRQCYHGNGQSYRGTFSTTVTGRTCQSWSSMTPHRHQRTPENYPNDGLTMNYCCRNPDADT
                                                                                                                                                                                                                                           ,
90
                                                                                                                                                                                                                                                                                                                                            protease.
                                                                                                                                                                                                                                                         Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GPWCFTTDPSIRWEYCNLTRCSDTEGTVV
                                                                                                      GPWCFTMDPSVRWEYCNLTRCSDTEGTVV
                                                                                                                             GPWCFTTDPSIRWEYCNLTRCSDTEGTVV
                                                                                                                                                                       VQDCYHGDGQSYRGSFSTTVTGRTCQSWSSMTPHQHKKTPENHPNDGLTMNYCRNPDADT
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                                                                                                                                                                                                                                                                                                            454 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (TrEMBLrel. 06, Created)
(TrEMBLrel. 06, Last sequence update)
(TrEMBLrel. 23, Last annotation update)
                                                                                                                                                                                                                                           Conservative
                   PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRELIMINARY;
                                                                                                                                                                                                                                                         92.7%;
89.9%;
                                                                                                                                                                                                                                                                                                            50041 MW;
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                                                                                                                                                                                                                                       Score 485; DB 6;
Pred. No. 4.2e-48;
7; Mismatches 2
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Catarrhini;
                   PRT;
                                                                                                                                                                                                                                                                                                              974E30744C187B2F CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mismatches
                   810
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   454
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                                                                                                                                        89
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                                                                                                        187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Vertebrata; Euteleostomi; 
i; Cercopithecidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ጅ
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                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                            454;
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                                                                                                                                                                           158
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                                                                                                                                                                                                                                                                                                                                                                                                                                  Matches
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Best Local
                                                                                                                                      Q16609;
Q16609;
Q1-NOV-1996
Q1-NOV-1996
Q1-MAR-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CHAIN
SEQUENCE
                                                     Homo sapiens (Human)
Eukaryota; Metazoa;
Mammalia; Eutheria;
     SEQUENCE FROM N.A.
                            NCBI_TaxID=9606;
                                                                                                        APOARGC.
                                                                                                                        (APOARGC).
                                                                                                                                                                                                                                           4
                                                                                                                                                                                                                                                                                                434
                                                                                                                                                                                                                                                                                                                                                                 374
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(TrEMBLrel. (TrEMBLrel. (TrEMBLrel.

01, 01, 23,

Created)
Last sequence update)
Last annotation updat

Chordata; Primates;

Craniata; Vertebrata; Euteleostomi; Catarrhini; Hominidae; Homo.

PRELIMINARY;

132

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PRINTS; PRO0722; CHYMOTRYPSIN.

PRINTS; PRO0018; KRINGLE:

PRINTS; PRO1505; PROTHROMBIN.

PRINTS; PRO1505; PROTHROMBIN.

PRODOM; PD000395; Kringle; 5.

SMART; SM00130; KR; 5.

SMART; SM00473; PAN_AP; 1.

SMART; SM00473; PAN_AP; 1.

SMART; SM00020; TYYP_SPC; 1.

PROSITE; PS00021; KRINGLE_1; 5.

PROSITE; PS00020; KRINGLE_2; 5.

PROSITE; PS000136; TRYPSIN_HIS; 1.

PROSITE; PS00134; TRYPSIN_HIS; 1.

PROSITE; PS00134; TRYPSIN_HIS; 1.

PROSITE; PS00135; TRYPSIN_HIS; 1.

PROSITE; PS00136; TRYPSIN_SEX; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  InterPro; IPR001314; Chymotrypsin.
InterPro; IPR00001; Kringle.
InterPro; IPR003014; PAN.
InterPro; IPR003014; PAN.
InterPro; IPR003069; Pan_app.
InterPro; IPR003966; Prothrombin.
InterPro; IPR003966; Prothrombin.
InterPro; IPR001294; Par Drotease_Try.
Pfam; PR00021; PAN; 1.
Pfam; PR00024; PAN; 1.
Pfam; PR00029; trypsin; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       01-NOV-1996 (TrEMBLrel.
01-NOV-1996 (TrEMBLrel.
01-MAR-2003 (TrEMBLrel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Plasminogen precursor. Homo sapiens (Human).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Eukaryola; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EMBL; M74220; AAA36451.1;
HSSP; P00747; 2PK4.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Fibrinolysis 0:0-0(1991).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           HeLa cells."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Browne M.J., Chapman C.G., Mitchell D., Robinson J.H.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 rissuE=Liver;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Expression of recombinant
                                                                                                                                                                                                                         73;
                                                                                                                                                                                                                                                   Similarity
                                   GPWCFTTDPSIRWEYCNLTRCSDTEGTVV
                                                                                                                                         VRQCYHGNGQSYRGTFSTTVTGRTCQSWSSMTPHRHQRTPENYPNDGLTMNYCRNPDADT
GPWCFTTDPSVRWEYCNLKKCSGTEASVV
                                                                                                         VQDCYHGDGQSYRGTSSTTTTGKKCQSWSSMTPHRHQKTPENYPNAGLIMNYCRNPDADK
                                                                                                                                                                                                                                                                                                                                  20
810 AA;
                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                        90555 MW;
                                                                                                                                                                                                                                                   84.9%;
82.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          01,
23,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Last
Last
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                                                                                                                                                                                                                         Score 444; DB 4; I
Pred. No. 4.7e-43;
7; Mismatches 9;
                                                                                                                                                                                                                                                                                                                                                                   POTENTIAL.
PLASMINOGEN
                                                                                                                                                                                                                                                                                                                                        B05C7D4B0D020B3C CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ;
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                                                                                                                                                                                                                                                                                                                                                                                                                           Protease;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DOMAINS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Carey J.E.,
                                                       89
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          update)
                                                                                                                                                                                                                                                                                                                                                                                                                           Serine protease; Signal.
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                                                                                                                                                                                                                                                                              Length 810;
                                                                                                                                                                                                                               Indels
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QSULT 5
QSULT 5
QSULT 10 1 M
QSULT 01-M
DT 01-
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Best Local S
Matches 70
Query Match
Best Local Similarity
                                                                                                                                                                                                                           InterPro; IPR000001; Kringle.
Pfam; PF00051; kringle; 1.
PRINTS; PR00018; KRINGLE.
ProDom; PD000395; Kringle; 1.
SMART; SM00130; KR: 1
                                                                                                                                                                                                                                                                                                                                                       MEDLINE-21181705; PubMed-11285247;
Ogorelkova M., Kraft H.G., Ehnholm C., Utermann G.;
"Single nucleotide polymorphisms in exons of the apo(a)
types 6 to 10 domain affect Lp(a) plasma concentrations
different patterns in Africans and Caucasians.";
Hum. Mol. Genet. 10:815-824(2001).
-!- SIMILARITY: CONTAINS 1 KRINGLE DOMAIN.
EMBL; AP158659; AAF03678.1;
EMBL; AP158659; AAF03678.1;
JOINED.
HISSP; P00747; 2PK4.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Q9UIR7
Q9UIR7;
01-MAY-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    01-MAY-2000 (TrEMBLrel. 13, Created)
01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-WAR-2003 (TrEMBLrel. 23, Last annotation update)
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"Loss of a splice donor site at a 'skipped exon';
to apolipoprotein(a) leads to an mRNA encoding a j
a single kringle domain.";
Arterioscler. Thromb. Vasc. Biol. 15:65-70(1995).
-!- SIMILARITY; CONTAINS 1 KRINGLE DOMAIN.
                                                                           Glycoprotein; Kringle; Lipoprotein.

NON TER 1 1 13

NON TER 113 113

SEQÜENCE 113 AA; 12815 MW; 4F80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Homo sapiens (Human).
Eukaryota; Metazoa; C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Apolipoprotein(a)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PROSITE; PS00021; KRINGLE 1; 1.
PROSITE; PS50070; KRINGLE 2; 1.
Glycoprotein; Kringle,
SEQUENCE 132 AA; 14886 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRINTS; PR00018; KRĪNGLE.
ProDom; PD000395; Kringle; 1.
SMART; SM00130; KR; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EMBL; U19518; AAA85693.1; -.
EMBL; U19517; AAA85692.1; -.
HSSP; P00747; 1PMK.
                                                                                                                                                                               PROSITE; PS00021; KRINGLE_1; 1. PROSITE; PS50070; KRINGLE_2; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDLINE=95268939; PubMed=7749817;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            nterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Pro; IPR000001; Kringle. PF00051; kringle; 1.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             70;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GPWCFTTDPSIRWEYCNLTRCSDTEGTV 88
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 VRQCYHGNGQSYRGTFSTTVTGRTCQSWSSMTPHRHQRTPENYPNDGLTMNYCRNPDADT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GPWCYTTDPNVRWEYCNLTRCSDDEGTV 112
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   VQECYHSNGQSYRGTYFTTVTGRTCQAWSSMTPHQHSRTPEKYPNDGLISNYCRNPDCSA 84
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (Fragment).
                                                                      113
12815 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Chordata;
Primates;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  83.9%;
79.5%;
  79.0%;
77.5%;
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Pred. No. 2.4e-43;
8; Mismatches 10
Score 413; DB 4;
Pred. No. 2.1e-40;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Craniata; Vertebrata; Euteleostomi; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRT;
                                                                              4F80ADF8708548CB CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3794AD30A586DBBA CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   113
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ipped exon' in a gene homologous encoding a protein consisting of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             10;
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                        Length 113;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          kringles
and have
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RESULT
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QUUR6
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AC Q9
DT 01
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DB A
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                                                                                                                                                                                                                                                                                     Query Match
Best Local S
Matches 67
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            P SEQUENCE FROM N.A.

MEDLINE-21181705; PubMed=11285247;

MOGOTELKOVA M., Kraft H.G., Ehnholm C., Utermann G.;

A Ogorelkova M., Kraft H.G., Ehnholm C., Utermann G.;

Pringle nuclectide polymorphisms in exons of the apo(a) kringle nuclectide polymorphisms in exons of the apo(a) kringle for 10 domain affect Lp(a) plasma concentrations and types 6 to 10 domain affect Lp(a) plasma concentrations and different patterns in Africans and Caucasians.";

Limm. Mol. Genet. 10:815-824(2001).

-i- SIMILARITY: CONTAINS 1 KRINGLE DOMAIN.

REMBL; AP158655; AAF03677.1; JOINED.

REMBL; AP158655; AAF03677.1; JOINED.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Matches
                                                                Q9UIR6;
01-MAY-2000
01-MAY-2000
01-MAR-2003
                                                                                                                                                                                                                                                                                                                                      Glycoprotein; I
NON_TER :
NON_TER :105
SEQUENCE 105
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Q9UIR8 PRELIMINARY; PHT; 105 Am.
Q9UIR8 1, Created)
01-MAY-2000 (TrEMBLrel. 13, Created)
01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-MAY-2003 (TrEMBLE 23, Last annotation update)
 Homo sapiens (Human).
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Primates;
                                        Apolipoprotein(a) APOA.
                                                                                                                                                                                                                                                                                                                                                                                                                 InterPro; IPR000001; Kringle.
Pfam; PF00051; Kringle; 1.
PRINTS; PR000018; KRINGLE.
ProDom; PD000395; Kringle; 1.
SMART; SM00130; KR; 1.
                                                                                                                   Q9UIR6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Homo sapiens (Human).
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Primates;
                                                                                                                                                                                                                                                                                                                                                                                         PROSITE; PS00021; KRINGLE_1; 1. PROSITE; PS50070; KRINGLE_2; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Apolipoprotein(a)
                                                                                                                                                                                  83
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                                                                                                                                                                                                                                                                                   SPWCYTMDPNVRWEYCNLTQCPVTESSVL
                                                                                                                                                                                                   GPWCFTTDPSIRWEYCNLTRCSDTEGTVV 89
                                                                                                                                                                                                                                  VQDCYHGDGQSYRGSFSTTVTGRTCQSWSSMTPHWHQRTTEYYPNGGLTRNYCRNPDABI
                                                                                                                                                                                                                                                VRQCYHGNGQSYRGTFSTTVTGRTCQSWSSMTPHRHQRTPENYPNDGLIMNYCRNPDADT
|: ||||:|||||:|||||:||||||:||
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      VQDCYHGDGQSYRGSFSTTVTGRTCQSWSSMTPHWHQRTTEYYPNGGLTRNYCRNPDABI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       VRQCYHGNGQSYRGTFSTTVTGRTCQSWSSMTPHRHQRTPENYPNDGLTMMYCRNPDADT
                                                                                                                                                                                                                                                                                                                                     · 105
105 AA;
                                                             (TrEMBLrel. 13, Creat
(TrEMBLrel. 13, Last
(TrEMBLrel. 23, Last
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                                                                                                                   PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                         Kringle;
                                                    (Fragment)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (Fragment).
                                                                                                                                                                                                                                                                                                                                                    105
                                                                                                                                                                                                                                                                                                                                        11882 MW;
                                                                                                                                                                                                                                                                                                                                                                            Lipoprotein
                                                                                        Created)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Craniata; Vertebrata; Euteleostomi; Catarrhini; Hominidae; Homo.
  Craniata; Vertebrata; Buteleostomi; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                         6ECB6C02CD30EFA2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mismatches
                                                                  sequence up
annotation
                                                                                                                   113
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                                                                update)
on update)
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                                                                                                                                                                                                                                                                                                             Length 105;
                                                                                                                                                                                                                                                                                                                                         CRC64;
                                                                                                                                                                                                                                                                                      Indels
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and have
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RESULT 8

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Best Local Similarity
Matches 67; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Q8WMR1
Q8WMR1;
Q8WMR1;
01-MAR-2002 (TrEMBLrel. 2
01-MAR-2002 (TrEMBLrel. 2
01-MAR-2003 (TrEMBLrel. 2
Plasminogen (Fragment).
                       Glycoprotein;
NON_TER
NON_TER 35
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Submitted (DEC-2001) to the EMBL/GenBank/DDBJ databases |-- SIMILARITY: CONTAINS 4 KRINGLE DOMAINS.

EMBL; AY069985; AAL58519.1; -- InterPro; IPR000001; Kringle.

InterPro; IPR003966; Prothrombin.

Pfam; PF00051; kringle; 4.

PRINTS; PR00505; RKINGLE.

PRINTS; PR00505; PROTHROMBIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Canima familiaris (Dog).
Canis familiaris (Dog).
Eukaryota; Metazoa, Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia: Eutheria; Carnivora; Fissipedia; Canidae; Canis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Glycoprotein; Kringle; Lipoprotein.

NON TER 1 1

NON TER 1 1 1

SEQUENCE 113 AA; 12697 MW; 51D4
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Pfam; PF00051; kringle; 1.
PRINTS; PR00018; KRINGLE.
ProDom; PD000395; Kringle; 1.
                                                                                        PROSITE; PS00021; KRINGLE_1; 4. PROSITE; PS50070; KRINGLE_2; 4.
                                                                                                                                   ProDom; PD00039:
SMART; SM00130;
                                                                                                                                                                                                                                                                                                                                                                                                             Pirie-Shepherd S.R., Folkman J., Waters D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NCBI_TaxID=9615;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PROSITE; PS00021; KRINGLE_1; 1.
PROSITE; PS50070; KRINGLE_2; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SMART;
                                                                                                                                                                                                                                                                                                                                                                                    Folkman J., Waters D.J.;
"Angiostatin is Detectable in the Urine of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CBI_TaxID=9606;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SM00130; KR; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 VRQCYHGNGQSYRGTFSTTVTGRTCQSWSSMTPHRHQRTPENYPNDGLIMNYCRNPDADT
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                                                                                                                                                          PD000395; Kringle; 4.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             VQDCYHGDGRSYRGISSTTVTGRTCQSWSSMIPHWHQRTPENYPNAGLTENYCRNPDSGK
    359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (TrEMBLrel. 20,
(TrEMBLrel. 20,
(TrEMBLrel. 23,
                       359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRELIMINARY;
                                                                   Kringle.
    A
                                                                                                                                     3
    41172
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75.3%;
                                                                                                                                                                                                                                                                                                                                                                                                           Coffman K.T.,
       M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Created)
Last sequence update)
Last annotation updat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      9,
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Pred. No. 1.8e-39;
9; Mismatches 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            51D4461D9C66312E CRC64;
       776D35F4AB0BDD9E CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                  Resnick
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                                                                                                                                                                                                                                                                                                                                                                                      Dogs with
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 113;
                                                                                                                                                                                                                                                                                                                                                                                        Spontaneous Bone
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0,
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Best Local S
Matches 63
                                          Query Match
Best Local S
Matches 63
                                                                                 Pfam; PF00051; Kringle; S.

Pfam; PF00024; PAN; 1.

Pfam; PF00084; EAN; 1.

PFAM; PF00089; trypsin; 1.

PRINTS; PR00018; KRINGLE

PRINTS; PR00018; KRINGLE 1; 5.

PROSITE; PS00021; KRINGLE 1; 5.

PROSITE; PS00021; KRINGLE 2; 5.

PROSITE; PS00031; KRINGLE 2; 5.

PROSITE; PS00031; TRYPSIN_DOM; 1.

PROSITE; PS00134; TRYPSIN_DOM; 1.

PROSITE; PS00134; TRYPSIN_SER; 1.

PROSITE; PS00135; TRYPSIN_SER; 1.

PROSITE; PS00134; TRYPSIN_SER; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Q91WJ5
Q91WJ5;
01-DEC-2001 (TrEMBLrel. 1
01-DEC-2001 (TrEMBLrel. 1
01-MAR-2003 (TrEMBLrel. 2
                                                                                                                                                                                                                                                                                                                             Mus musculus (Mouse).
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
                                                                                                                                                                                                                                                    InterPro; IPR003014; PAN.
InterPro; IPR003966; Prot
InterPro; IPR001254; Ser_
InterPro; IPR001400; Soma
                                                                                                                                                                                                                                                                                                MGD; MGI:97620; Plg.
InterPro; IPR001314; Chymotrypsin.
InterPro; IPR000001; Kringle.
                                                                                                                                                                                                                                                                                                                                                                                                          Brathwaite M., Waeltz P., Qian Y.,
                                                                                                                                                                                                                                                                                                                                                                                                                       STRAIN=129/Sv;
                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Submitted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Strausberg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TISSUE=Liver;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Plasminogen.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             9
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      63;
                                           63;
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                                                       Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GPWCFTTDPSIRWEYCNLTRC 81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SPWCYTTDPSVRWEFCNLRKC 359
 VQECYQSDGQSYRGTSSTTITGKKCQSWAAMFPHRHSKTPENFPDAGLEMNYCRNPDGDK 433
                 VRQCYHGNGQSYRGTFSTTVTGRTCQSWSSMTPHRHQRTPENYPNDGLTMNYCRNPDADT
                                                                                                                                                                                                                                                                                                                                                                                                                                                       (OCT-2001) to the EMBL/GenBank/DDBJ
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                                          76.5%;
llarity 70.8%;
Conservative 1:
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                                                                                                                                                                                                                                                      Somatotropin
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                                                                                                                                                                                                                                                                            Prothrombin.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             77.8%;
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19,
23,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Last sequence update)
Last annotation update)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 404;
Pred. No. 1
                                          Score 400; DB 11;
Pred. No. 6.2e-38;
4; Mismatches 12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Craniata; Vertebrata; Euteleostomi;
Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                             Dudekula
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                                                                                                                                                                                                                                                                                                                                                                                        t-complex Region.";
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.5e-39;
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                                                                                        Serine protease FFD2 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                         databases
                                                                                                                                                                                                                                                                                                                                                                                                              Schlessinger
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                                                                Length 812;
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61

GPWCFTTDPSIRWEYCNLTRCSDTEGTVV

89

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RESULT 10
Q28911
Q28911
AC Q2891
DT 01-W,
DT 01-
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Q9ROW3
          RRAR RRACOCCO GREET
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Best Local S
Matches 65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A.

MEDIINE-55395387; PubMed-7666007;

MEDIINE-55395387; PubMed-7666007;

MEDIINE-55395387; PubMed-7666007;

Minton L.L., Newton R.S.;

"Gemfibrozil significantly lowers cynomolgus monkey pi
"Gemfibrozil protein and liver apolipoprotein[a] mRI
lipoprotein[a]-protein and liver apolipoprotein[a] mRI
J. Lipid Res. 36:1294-1304(1995).

-i- SIMILARITY: CONTAINS 1 KRINGLE DOMAIN.

EMBL; 879621; AAD14312.1; -.

HSSP; P00747; 2PK4.
                                                                                                                                                                                                                                                                                             Q9R0W3;
Q9R0W3;
01-MAY-2000
01-MAY-2000
01-MAR-2003
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Q28911;
01-NOV-1996
01-MAY-1999
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PROSITE; PS00021; KRINGLE 2; 1.

PROSITE; PS50070; KRINGLE 2; 1.

Glycoprotein; Kringle; Lipoprotein.

NON TER 145 145

SEQUENCE 145 AA; 16097 MW; 0D2D;
     Bangert K., Johnsen A.H., Th
"Rat plasminogen: cDNA and g
Submitted (MAY-1999) to the
                                                                                                                                                                      Rattus norvegicus (Rat).
Eukaryota; Metazoa; Chor
Mammalia; Eutheria; Rode
                                                                                                                                                                                                                                                  Plasminogen
PLASMINOGEN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Pfam; PF00051; kringle; 1.
PRINTS; PR00018; KRINGLE.
ProDom; PD000395; Kringle; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Eukaryota; Metazoa; Chor
Mammalia; Eutheria; Prim
Cercopithecinae; Macaca.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APOLIPOPROTEIN(A)
                                                                           TISSUE=Liver;
                                                                                                  SEQUENCE FROM N.A.
                                                                                                                                               NCBI_TaxID=10116;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Macaca fascicularis (Crab eating macaque) (Cynomolgus monkey).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         01-MAR-2003
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     InterPro; IPR000001; Kringle.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                434
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  VRQCYHGNGQSYRGTFSTTVTGRTCQSWSSMTPHRHQRTPENYPNDGLTMNYCRNPDADT
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                                                                                                                                                                                                                                                                      protein
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                                                                                                                                                                                                                                                                 (TYENHBLrel. 13, Created)
(TYENHBLrel. 13, Last sequence update)
(TYENHBLrel. 23, Last annotation update)
protein precursor (EC 3.4.21.7).
                                                                                                                                                                                                                                                                                                                                                                                             PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ] (Fragment).
                                                                                                                                                                           Chordata;
Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Primates; Catarrhini; Cercopithecidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        75.5%;
73.0%;
Thorsen S.;
Id gene structure.";
The EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 9;
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Last annotation updat
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Pred. No. 3.4e-38;
                                                                                                                                                                      Craniata; Vertebrata; Euteleostomi; Sciurognathi; Muridae; Murinae; Rattus
                                                                                                                                                                                                                                                                                                                                                                                             PRT;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Pfam; PF00051; kriingle; 5.

Pfam; PF00024; PAN; 1.

Pfam; PF00089; trypsin; 1.

Pfam; PF00089; trypsin; 1.

PRINTS; PR00722; CYMOTRYPSIN.

PRINTS; PR01505; PROTHROMBIN.

PRODOm; PF0000395; Kringle; 5.

SMART; SM00130; KR; 4.

SMART; SM000473; PAN AP; 1.

SMART; SM000473; PAN AP; 1.

SMART; SM00020; Tryp_SPc; 1.

SMART; SM00020; Tryp_SPc; 1.

PROSITE; PS00021; KRINGLE 1; 5.

PROSITE; PS00038; SOMATOTROPIN 2; 1.

PROSITE; PS00134; TRYPSIN HIS; 1.

PROSITE; PS00135; TRYPSIN SER; 1.
                                                                                                                                                                                                                                                                                                                                                 018783
018783;
Macropus eugenii (Tammar wallaby).
Eukaryota; Metazoa; Chordata; Cran
Mammalla; Metatheria; Diprotodonti
                                                                                                                                                                                                                                                                                                        01-JAN-1998
01-JAN-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Glycoprotein; Hydrolase; \overline{K}ringle; Protease; Serine protease; SIGNAL 1 19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  [2]
SEQUENCE FROM N.A.
                                                                                                  SEQUENCE FROM N.A.
TISSUE=Liver;
MEDLINE=98004511; PubMed=9342350;
                                                                                                                                                                                                                                                              Plasminogen.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CHAIN
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"Identification of the rat Heymann
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TISSUE=Liver;
                                                                            Lawn R.M., Schwartz K., Patthy L.;
                                                                                                                                                                                 NCBI_TaxID=9315;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           InterPro; IPR001254; Ser_protease_
InterPro; IPR001400; Somatotropin.
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InterPro; IPR003609;
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InterPro; IPR000001; Kringle.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RGPWCFTTDPSVRWEYCNLKRCSETGGGV
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812 A
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                                                                                                                                                                                                      Chordata; Craniata; Vertebrata; Euteleostomi; a; Diprotodontia; Macropodidae; Macropus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            90535 MW;
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71.9%;
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Prothrombin.
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Last
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                                                                                                                                                                                                                                                                                     sequence up
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                                                                                                                                                                                                                                                                                                             update)
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                                                             hedgehog.";
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Q28398
ID Q2839
AC Q2
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InterPro; IPRO0366; Prothrombin.

InterPro; IPRO0366; Prothrombin.

InterPro; IPRO01254; Ser protease_Try.

Pfam; pP00051; kringle; 5.

Pfam; pP00024; PAN; 1.

Pfam; pP00089; trypsin; 1.

PRINTS; PR00122; CHYMOTRYPSIN.

PRINTS; PR00018; KRINGLE.

PRINTS; PR000139; KRINGLE.

PRODOm; PD000395; Kringle; 5.

PR PRODOM; PD000395; Kringle; 5.

PR PROST; SM00130; KR; 4.

NR SMART; SM00130; KR; 4.

NR SMART; SM00020; KTYD_SPC; 1.

NR SMART; SM00020; KRINGLE 1; 5.

PROSITE; PS00013; TRYPSIN_ER; 1.

PROSITE; PS00134; TRYPSIN_SER; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Matches
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Best Local Similarity
                                                                                 InterPro; IPRO00001; Kringle.
Pfam; PF00051; kringle; 31.
PRINTS; PR00018; KRINGLE.
ProDom; PD000395; Kringle; 31.
SMART; SM00130; KR; 31.
PROSITE; PS00021; KRINGLE 1; 30.
PROSITE; PS50070; KRINGLE 2; 31.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             028398;
01.NOV-1996 (TrEMBLrel. 01, Created)
01.NOV-1996 (TrEMBLrel. 01, Last sequence update)
01-MAR-2003 (TrEMBLrel. 23, Last annotation update)
Apolipoprotein(a) (Fragment).
Erinaceus europaeus (Western European hedgehog).
Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalla; Eutheria; Insectivora; Erinaceidae; Erinaceinae; Erinace
Glycoprotein; Kringle; Lipoprotein.
NON TER 1 1
SEQUENCE 2869 AA; 318601 MW; 95
                                                                                                                                                                                                                                                                                                                                                                                                                                    MEDLINE=96025778; PubMed=7592597;
Lawn R.M., Boonmark N.W., Schwartz K., Lindahl G.E.,
Byrne C.D., Fong K.J., Meer K., Patthy L.;
"The recurring evolution of lipoprotein(a). Insights
                                                                                                                                                                                                                                                                                                                                                  hedgehog apolipoprotein(a).";
J. Biol. Chem. 270:24004-24009(1995)
-!- SIMILARITY: CONTAINS 31 KRINGLE
                                                                                                                                                                                                                                                                                            EMBL; U33170; AAC48522.1;
HSSP; P00747; 1PMK.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Q28398
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NCBI_TaxID=9365;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   HSSP; P00747;
MEROPS; S01.2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          428 SPWCYTMDPTVRWEFCNLEKCSGTGSTVL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             368 IQECYEGKGENYRGTTSTTISGKKCQAWSSMTPHQHKKTPDNFPNADLIRNYCRNPDGDK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61 GPWCFTTDPSIRWEYCNLTRCSDTEGTVV 89
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 VRQCYHGNGQSYRGTFSTTVTGRTCQSWSSMTPHRHQRTPENYPNDGLTMNYCRNPDADT
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IPR000001; Kringle.
IPR003014; PAN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRELIMINARY;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       68.8%; Score 360; DB 6; 59.6%; Pred. No. 2.7e-33; tive 20; Mismatches 16;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRT;
      9527CEF985A4FB2A CRC64;
                                                                                                                                                                                                                                                                                                                                                        DOMAINS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2869
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Q91XG
Q91XG
ID Q91XG
AC Q91XG
DT Q1-DE
DT Q1-DE
DT Q1-MA
DE HEPAT
GN HGFL.
OS MANS N
OC EALKAI
OC Mammas
OC Mammas
OX NCBI
RN (CI)
RP SEQUE
RC TISSI
RA SETAL
SUDMI
CC -!- (
DR HSSE
DR HSSE
DR HSSE
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Best Local S
Matches 47
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Best Local Similarity
Matches 46; Conserv
                                                                                                                                                                                O91XG8
PKBLIFFL.

Q91XGB:
01-DEC-2001 (TrEMBLrel. 19, Created)
01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
01-MAR-2003 (TrEMBLrel. 23, Last annotation update)
01-MAR-2003 (TrEMBLrel. 23, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Q8AVB0;
Q8AVB0;
01-MAR-2003
01-MAR-2003
01-MAR-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A.

Hanumanthaiah R., Day K., Jagadeeswaran P.;

Hanumanthaiah R., Day K., Jagadeeswaran P.;

"Comprehensive analysis of blood coagulation pathways in Evolution of coagulation factor genes and identification factor VIII.";

Eactor VIII.";

Elood Cells Mol. Dis. 0:0-0(2002).

EMBL; AF515276; AAN71006.1; -.

NON_TER
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01-MAR-2003 (TrEMBLrel. 23, Last sequence update)
01-MAR-2003 (TrEMBLrel. 23, Last annotation update)
01-MAR-2003 (TrEMBLrel. 23, Last annotation update)
Plasminogen precursor (Fragment).
Plasminogen precursor (Fragment).
Burachydanio rerio (Zebrafish) (Danio rerio).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Actinopterygii, Neopterygii; Teleostei; Ostariophysi; Cypriniforma
Cyprinidae; Danio.
            Strausberg R.;
submitted (JUL-2001) to the EMBL/GenBank/DDBJ databases.
-!-SIMILARITY: CONTAINS 4 KRINGLE DOMAINS.
EMBL; BC010551; AAH10551.1; -.
HSSP; P00761; 1AN1.
                                                                                                                                                Mus musculus (Mouse).
Eukaryota; Metazoa; C
Mammalia; Eutheria; F
                                                                                                                               NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NCBI_TaxID=7955;
                                                                                        TISSUE=Liver;
                                                                                                      SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                160 NGPWCYTTDPSKKWDYCQIPDC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                47;
                                                                                                                                                                                                                                                                                                                                                                                          60 TGPWCFTTDPSIRWEYCNLTRC
                                                                                                                                                                                                                                                                                                                                                                                                                                                  2 RQCYHGNGQSYRGTFSTTYTGRTCQSWSSMTPHRHQR-TPENYPNDGLTMNYCRNPDAD-
                                                                                                                                                                                                                                                                                                                                                                                                                        COCKNIGNGAEYRGSTSMTVMGVTCQAWRSMTPHQHASFTPETHPDKGLESNQCRNPDSDV 159
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WCYTTNSAVRWEYCSIPTC
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  QCYHGNGQSYRGTFSTTVTGRTCQSWSSMTPHRHQRTPENYPNDGLTMNYCRNPDADTGP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             429 AA; 47556 MW; 9A580A214A549C12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  53.7%;
                                                                                                                                                  Chordata;
Rodentia;
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58.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 12; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 281; DB 13;
Pred. No. 2.1e-24;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2854
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 303; DB 6;
Pred. No. 4.8e-26;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       81
                                                                                                                                                  Craniata; Vertebrata; Euteleostomi;
Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mismatches
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of zebrafish
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DR InterPro; IPR001314; Chymotrypsin.

DR InterPro; IPR003014; PAN.

DR InterPro; IPR003014; PAN.

DR InterPro; IPR00306; PROHODIN.

PRINTERPRO; IPR00356; PROHINOMBIN.

DR InterPro; IPR00154; Ser_protease_Try.

DR Pfam; PF00051; Kringle; 4.

Pfam; PF00089; trypsin; 1.

DR Pfam; PF00089; trypsin; 1.

DR PFAm; PF00024; PAN; 1.

DR PRINTS; PR00125; KRINGLE; 4.

DR PRINTS; PR00125; KRINGLE; 4.

DR PRINTS; PR00120; KR; 4.

DR SMART; SM00413; PAN AP; 1.

DR SMART; SM00413; PAN AP; 1.

DR SMART; SM00000; Tryp SP0; 1.

DR SMART; SM00000; Tryp SP0; 1.

DR SMART; SM00000; TRYPSIN DOM; 1.

DR PROSITE; PS00070; KRINGLE; 4.

DR SMART; SM00413; PAN AP; 1.

DR PROSITE; PS00070; KRINGLE; 4.

DR PROSITE; PS00070; KRINGLE; 1.

DR PROSITE; PS00070; KRINGLE; 4.

DR PROSITE; PR00070; PR00070; PR000; PR0
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Minimum DB
Maximum DB
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Maximum Match 100%
Listing first 45 summaries
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         OM protein - protein search, using sw model
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Title:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       seq length: 0 seq length: 2000000000
A Geneseq_19Jun03:*

| SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1980.DAT:*
| SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1981.DAT:*
| SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1982.DAT:*
| SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1982.DAT:*
| SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1984.DAT:*
| SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1984.DAT:*
| SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1984.DAT:*
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| SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1989.DAT:*
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| SIDS1/gcgdata/geneseq/geneseqp-emb1/AA2000.DAT:*
| SIDS1/gcgdata/geneseq/geneseqp-emb1/AA2000.DAT:*
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523
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and is Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed. derived by analysis of the total score distribution.

9	8	7	6	ຫ	.4.	u	۵	۲	Result No.
444	444	444	444	444	444	444	523	523	Score
84.9	84.9	84.9	84.9	84.9	84.9	84.9	100.0	100.0	Query Match
375	374	369	364	192	189	90	308	89	Query Match Length DB
21	21	21	21	21	21	21	22	22	DB
AAY79225	AAY79226	AAY53868	AAB01905	AAB01919	AAB01918	AAB01909	AAY72944	AAY72946	ID
Angiogenesis inhib	Angiogenesis inhib	Amino acid sequenc	Human plasminogen	Human plasminogen	Human plasminogen	Human plasminogen	Human angiogenesis	Human apolipoprote	Description

ALIGNMENTS

ARYZOJAN AAY729A AAY727A AC AAY7 XX AAY7 XX Huma XX Huma XX Huma XX Huma XX Coull XW Coull XW Coull XW Coull XW Coull XW WO20 PN WO20 PN WO20 PF 15-S XX IS-S PF 15-S XX MGG XX MGG XX MGG XX MGG PN MGG XX M AAY72946 standard; Protein; 89 ₽

13-JUN-2001 AAY72946; (first entry)

Human apolipoprotein(a) kringle domain IV37, LK7 protein.

Human; angiogenesis inhibitor; LK7; apolipoprotein(a) kringle domain; angiogenesis-mediated disease; cancer; rheumatoid arthritis; therapy; cytostatic; antirheumatic; antiarthritic; antipsoriatic; psoriasis; ocular angiogenic disease; endothelial cell proliferation; tumour; cell migration.

Homo sapiens.

WO200119868-A1

22-MAR-2001.

15-SEP-1999;

99WO-KR00554.

15-SEP-1999; 99WO-KR00554.

(MOGA-) MOGAM BIOTECHNOLOGY RES INST.

Chang J, Kim JS, Park EJ, Yum J, Chung Ś

WPI; 2001-244787/25. N-PSDB; AAD03257.

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RRESULT 2
AAY7294Y
XX AAY72
XX AAY7
XX AAY7
XX Hume
XX Hume
XX Hume
XX Hoc cytc
XW cytc
XW cytr
XW Coll
XW Col
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Best Local S
Matches 89
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           The present sequence is human LK7 protein which contains the amino acid sequence of human apolipoprotein(a) kringle domain IV37 (LK7). The human apolipoprotein(a) kringle domains IV36 (LK6 protein), IV37 (LK7 protein) and V38 (LK8 protein) together form the angiogenesis inhibitor, LK68 protein. LK68, LK6, LK7 and LK8 are inhibitors are of endothelial cell proliferation, cell migration and normal development of capillaries in the chick embryo chorioallantoic membrane (CAM). LK68 protein, its single kringles or their functional equivalents, are useful for treating angiogenesis-mediated diseases, such as cancer, rheumatoid arthritis, psoriasis or ocular angiogenic disease in animals or humans. LK68 is useful as an anticancer agent ar also for inhibiting primary tumour growth.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Novel angiogenesis inhibitor, LK68 for treating angiogenesis-mediated diseases, e.g. cancer and rheumatoid arthritis, has human apollpoprotein(a) kringle domains IV36, IV37 and V38 amino acid sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Human; angiogenesis inhibitor; LK68; apolipoprotein(a) kringle domain; angiogenesis-mediated disease; cancer; rheumatoid arthritis; therapy; cytostatic; antirheumatic; antiarthritic; antipsoriatic; psoriasis; ocular angiogenic disease; endothelial cell proliferation; tumour;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAY72944 standard; Protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Human angiogenesis inhibitor, LK68 protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAY72944;
       15-SEP-1999;
                                                                           22-MAR-2001.
                                                                                                                                                   WO200119868-A1.
                                                                                                                                                                                                                                                                                                                                     Domain
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   migration
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GPWCFTTDPSIRWEYCNLTRCSDTEGTVV 89
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          VRQCYHGNGQSYRGTFSTTVTGRTCQSWSSMTPHRHQRTPENYPNDGLTMNYCRNPDADT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (first entry)
       99WO-KR00554.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Location/Qualifiers
                                                                                                                                                                                                                       protein"
                                                                                                                                                                                                                                                                                                                                                                    protein"
                                                                                                                                                                                                                                                          /note= "Apolipoprotein(a) kringle domain V38,
                                                                                                                                                                                                                                                                                                                                                                                                         note= "Apolipoprotein(a) kringle domain IV37, LK7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         'note= "Apolipoprotein(a) kringle
                                                                                                                                                                                                                                                                                            label= KV38
                                                                                                                                                                                                                                                                                                                                                                                                                                            label= KIV37
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            label= KIV36
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    100.0%;
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Pred. No. 5.2e-46;
; Mismatches 0;
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AABO190
ID AABB
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AC AABC
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DT 18-5
CX Hume
XX Plas
KW Plas
KW anti
KW anti
XX AABC
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XX US60
XX US60
XX US60
XX US60
XX AABC
PD 02-N
XX AABC
PR 03-L
PR 0
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Best Local S
Matches 89
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LK68 protein contains the amino acid sequences of human apolipoprotein(a) kringle domains IV36 (LK6 protein), IV37 (LK7 protein) and V38 (LK8 protein). LK68, LK6, LK7 and LK8 are inhibitors are of endothelial cell proliferation, cell migration and normal development of capillaries in the chick embryo choricallantoic membrane (CAM). LK68 protein, its single kringles or their functional equivalents, are useful for treating angiogenesis-mediated diseases, such as cancer, rheumatoid arthritis, psoriasis or ocular angiogenic disease in animals or humans. LK68 is useful as an anticancer agent and also for inhibiting primary
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Plasminogen; human; kringle domain; endothelial cell proliferation; angiogenesis; antiproliferative; antiarteriosclerotic; cytostatic; antipsoriatic; antiinflammatory; antiulcer; antirheumatic; antiarth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence
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                                                                                                                03-MAY-1996;
03-APR-1997;
                                                                                                                                                                                                      05-MAY-1997;
                                                                                                                                                                                                                                                            02-MAY-2000
                                                                                                                                                                                                                                                                                                                    US6057122-A.
                                                                                                                                                                                                                                                                                                                                                                                                                            antiangiogenic; cancer; tumour; autoimmune disease.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Human plasminogen kringle 4 (Val354-Val443).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   18-SEP-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAB01909;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAB01909 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                119
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 VROCYHGNGOSYRGTFSTTVTGRTCQSWSSMTPHRHQRTPBNYPNDGLTMNYCRNPDADT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GPWCFTTDPSIRWEYCNLTRCSDTEGTVV 89
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             VRQCYHGNGQSYRGTFSTTVTGRTCQSWSSMTPHRHQRTPENYPNDGLTWNYCRNPDADT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GPWCFTTDPSIRWEYCNLTRCSDTEGTVV
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              308 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       100.0%; ilarity 100.0%; Conservative 0
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                                                                                                                   96US-0643219
97US-0832087
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Pred. No. 2e-45;
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KW Plag
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PN US6(
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CC peptide fragments. The method comprises mixing mammalian plasminogen and
CC elastase in the ratio 1:100-1:300, followed by incubating and isolating
CC the fragment. The kringle 5 peptides are inhibitors of angiogenesis and
CC endothelial cell proliferation and migration. The peptides are useful
CC for treating angiogenic diseases, primary and metastatic solid tumours
CC arcinomas of various organs such as breast, genital tract,
CC endocrine glands, skin, tumours of the brain and eyes and solid tumours
CC arising from haematopoietic malignancies such as leukaemias and
CC (arghomas. They are also used for the prophylaxis of various autoimmune
CC diseases (e.g., rheumatoid arthritis), ocular diseases, skin diseases
CC (e.g., psoriasis), blood vessel diseases (e.g. haemangiomas, Osler-Webber
CC (arghomas in the caused by excessive or abnormal stimulation of
CC endothelial cells (e.g., Crohn's disease, atherosclerosis), diseases
CC which have angiogenesis as a pathologic consequence (e.g., cat scratch
CC disease and ulcers). The peptides are also useful as a birth control
CC agent which inhibits ovulation and establishment of the placenta.
CC sequences AAB01906-B01919 represent fragments of human plasminogen used
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local
                                                                                                                                                                                                              Plasminogen; human; kringle domain; endothelial cell proliferation; angiogenesis; antiproliferative; antiarteriosclerotic; cytostatic; antipporiartic; antiinflammatory; antiulcer; antiheumatic; antiarthritic; antiangiogenic; cancer; tumour; autoimmune disease.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Preparation of Kringle five peptide fragment for treating various disorders such as angiogenic, ocular, skin diseases and cancer, involves mixing mammalian plasminogen and elastase followed by
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence
    03-MAY-1996;
03-APR-1997;
                                                            05-MAY-1997;
                                                                                                                                       US6057122-A
                                                                                                                                                                            Homo sapiens
                                                                                                                                                                                                                                                                                                           Human plasminogen kringles 4-5 (Val355-Ala543).
                                                                                                                                                                                                                                                                                                                                                        18-SEP-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                 AAB01918 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Example 17; Page -; 48pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     incubation and isolation
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           figure 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          exemplification of the invention.
This sequence is not shown in the specification, but is derived the full length human plasminogen sequence (AAB01887) shown in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  62
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 VRQCYHGNGQSYRGTFSTTVTGRTCQSWSSMTPHRHQRTPENYPNDGLTMNYCRNPDADT 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GPWCFTTDPSVRWEYCNLKKCSGTEASVV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           VQDCYHGDGQSYRGTSSTTTTGKKCQSWSSMTPHRHQKTPENYPNAGLTMNYCRNPDADK
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  96US-0643219.
97US-0832087.
                                                            97US-0851350.
                                                                                                                                                                                                                                                                                                                                                                                                                                 Protein;
                                                                                                                                                                                                                                                                                                                                                      entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          84.9%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 444; DB 21;
Pred. No. 6.2e-38;
7; Mismatches 9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  90
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RESULT 5
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             cc peptide fragments. The method comprises mixing mammalian plasminogen and calastase in the ratio 1:100-1:300, followed by incubating and isolating the fragment. The kringle 5 peptides are inhibitors of angiogenesis and cendothelial cell proliferation and migration. The peptides are useful for treating angiogenic diseases, primary and metastatic solid tumours candocraine glands, skin, tumours of the brain and eyes and solid tumours carising from haematopoietic malignancies such as leukaemias and carcinomas. They are also used for the prophylaxis of various autoimmune clisaceses (e.g., rheumatoid arthritis), ocular diseases, skin diseases (e.g., psoriasis), blood vessel diseases (e.g. haemangiomas, Osler-Webber CC Syndrome), diseases caused by excessive or abnormal stimulation of cendothelial cells (e.g., Crohn's disease, atherosclerosis), diseases CC which have angiogenesis as a pathologic consequence (e.g., cat scratch disease and ulcers). The peptides are also useful as a birth control agent which inhibits ovulation destablishment of the placenta.

CC sequences Abs01906-80191 represent fragments of human plasminogen used in an exemplification of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
                                                                                                                                                                                                                                                       Plasminogen; human; kringle domain; endothelial cell proliferation; angiogenesis; antiproliferative; antiarteriosclerotic; cytostatic; antipporiatic; antiinflammatory; antiulcer; antirheumatic; antiarth
                                                                                                                                                                                                                                antiangiogenic;
                                                                                                                                                                                                                                                                                                                                                                                            Human plasminogen
                                                                                                                                                                                                                                                                                                                                                                                                                                                            18-SEP-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAB01919;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Note: This sequence is not shown in the specification, but is derived from the full length human plasminogen sequence (AAB01887) shown in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Example 17; Page -; 48pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              disorders such as angiogenic, ocular, involves mixing mammalian plasminogen incubation and isolation -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Preparation of Kringle five peptide fragment for treating various disorders such as angiogenic, ocular, skin diseases and cancer,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WPI; 2000-349573/30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAB01919 standard; Protein; 192
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (ABBO ) ABBOTT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    invention relates to a method of preparing
                                                                                                                                                                   sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61 GPWCFTTDPSVRWEYCNLKKCSGTEASVV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        μ.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            73;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GPWCFTTDPSIRWEYCNLTRCSDTEGTVV 89
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           VQDCYHGDGQSYRGTSSTTTTGKKCQSWSSMTPHRHQKTPENYPNAGLTMNYCRNPDADK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             VRQCYHGNGQSYRGTFSTTVTGRTCQSWSSMTPHRHQRTPENYPNDGLTMNYCRNPDADT 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             189
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                            (first entry)
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                                                                                                                                                                                                                                                                                                                                                                                            kringles 4-5 (Val355-Phe546).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       84.9%;
82.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 444; DB 21;
Pred. No. 1.4e-37;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ζ
                                                                                                                                                                                                                                      autoimmune disease
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            9
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 189;
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02-MAY-2000

US6057122-A.

05-MAY-1997;

97US-0851350

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AABO1905
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KW anti
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     The invention relates to a method of preparing plasminogen kringle 5 peptide fragments. The method comprises mixing mammalian plasminogen and clastase in the ratio 1:100-1:300, followed by incubating and isolating the fragment. The kringle 5 peptides are inhibitors of angiogenesis and endothelial cell proliferation and migration. The peptides are useful for treating angiogenic diseases, primary and metastatic solid tumours and carcinomas of various organs such as breast, genital tract, endocrine glands, skin, tumours of the brain and eyes and solid tumours arising from haematopoletic malignancies such as leukaemias and lymphomas. They are also used for the prophylaxis of various autoinmune diseases (e.g., rheumatoid arthritis), ocular diseases, skin diseases (e.g., psoriasis), blood vessel diseases (e.g. haemangiomas, Osler-Webber Syndrome), diseases caused by excessive or abnormal stimulation of disease and ulcers). The peptides are also useful as a birth control agent which inhibits ovulation and establishment of the placenta.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
                                                                   Plasminogen; human; kringle domain; endothelial cell proliferation; angiogenesis; antiproliferative; antiarteriosclerotic; cytostatic; antipsoriatic; antiinflammatory; antiulcer; antirheumatic; antiarth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Preparation of Kringle five peptide fragment for treating various disorders such as angiogenic, ocular, skin diseases and cancer, involves mixing mammalian plasminogen and elastase followed by
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           03-MAY-1996;
03-APR-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequences AAB01906-B01919 represent fragments in an exemplification of the invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Example 17; Page -; 48pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WPI; 2000-349573/30.
                                                                                                                                              Human
                                                                                                                                                                                  18-SEP-2000
                                                                                                                                                                                                                                                      AAB01905 standard; Protein; 364 AA
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                                                    antiangiogenic;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (ABBO ) ABBOTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      This sequence is not shown in the specification, but is derived the full length human plasminogen sequence (AAB01887) shown in
                                                                                                                                             plasminogen kringles 1-4 (angiostatin).
                                                                                                                                                                                                                                                                                                                                                61
                                                                                                                                                                                                                                                                                                                                                                                61
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                                                                                                                                                                                                                                                                                                                                                GPWCFTTDPSVRWEYCNLKKCSGTEASVV
                                                                                                                                                                                                                                                                                                                                                                                GPWCFTTDPSIRWEYCNLTRCSDTEGTVV 89
                                                                                                                                                                                                                                                                                                                                                                                                                                                VRQCYHGNGQSYRGTFSTTVTGRTCQSWSSMTPHRHQRTPENYPNDGLTMNYCRNPDADT
                                                                                                                                                                                                                                                                                                                                                                                                                  VQDCYHGDGQSYRGTSSTTTTGKKCQSWSSMTPHRHQKTPENYPNAGLTMNYCRNPDADK 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             and isolation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   192 AA
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                                                                                                                                                                              (first entry)
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97US-0832087.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              84.9%;
82.0%;
                                                      tumour;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 444; DB 21;
Pred. No. 1.4e-37;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mismatches
                                                        autoimmune disease
                                                                                                                                                                                                                                                                                                                                                  89
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 192;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                           antiarthritic;
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Homo

Human; plasminogen; angiostatin; greenstatin; thrombolytic factor; angiogenesis inhibitory protein; proliferation; angiogenesis; cancer; vascular endothelial cell; ophthalmic disease; glaucoma;

Amino acid sequence of human angiostatin protein.

13-MAR-2000 AAY53868

(first

entry)

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                      The invention relates to a method of preparing plasminogen kringle 5 CC peptide fragments. The method comprises mixing mammalian plasminogen and CC elastase in the ratio 1:100-1:300, followed by incubating and isolating CC the fragment. The kringle 5 peptides are inhibitors of anglogenesis and CC endothelial cell proliferation and migration. The peptides are useful CC for treating anglogenic diseases, primary and metastatic solid tumours and carcinomas of various organs such as breast, genital tract, CC endocrine glands, skin, tumours of the brain and eyes and solid tumours CC endocrine glands, skin, tumours of the brain and eyes and solid tumours CC endocrine glands, skin, tumours of the brain and eyes and solid tumours CC lymphomas. They are also used for the prophylaxis of various autoimmune CC (e.g., psoriasis), blood vessel diseases (e.g. haemangiomas, Osler-Webber CC (e.g., psoriasis), blood vessel diseases (e.g. haemangiomas, Osler-Webber CC (e.g., psoriasis), blood vessel diseases, atherosclerosis), diseases (e.g. have anglogenesis as a pathologic consequence (e.g., cat scratch CC disease and ulcers). The peptides are also useful as a birth control CC agent which inhibits ovulation and establishment of the placenta. CC sequences AAB01906-B0191 represent fragments of human plasminogen used CC in an exemplification of the invention.

CC Sould the full length human plasminogen sequence (AAB01887) shown in the full length human plasminogen sequence (AAB01887) shown in
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Matches
                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Preparation of Kringle five peptide fragment for treating varied disorders such as angiogenic, ocular, skin diseases and cancer, involves mixing mammalian plasminogen and elastase followed by incubation and isolation -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           03-MAY-1996;
03-APR-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US6057122-A
                                                                                                                                                                         AAY53868 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Example 17; Page -; 48pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Davidson
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             05-MAY-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   figure
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                                                                                                                                                                                                                                                                                                                                                                                                                 Local
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                                                                                                                                                                                                                                                                                                                               276 VQDCYHGDGQSYRGTSSTTTTGKKCQSWSSMTPHRHQKTPENYPNAGLTMNYCRNFDADK 335
                                                                                                                                                                                                                                                             336 GPWCFTTDPSVRWEYCNLKKCSGTEASVV
                                                                                                                                                                                                                                                                                                                                                Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ខ្ន
                                                                                                                                                                                                                                                                                GPWCFTTDPSIRWEYCNLTRCSDTEGTVV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      364 AA;
                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           96US-0643219.
97US-0832087.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               97US-0851350
                                                                                                                                                                         protein;
                                                                                                                                                                                                                                                                                                                                                                                                                  84.9%;
                                                                                                                                                                                                                                                                                                                                                                                                                  Score 444; DB 21;
Pred. No. 2.8e-37;
                                                                                                                                                                                                                                                                                                                                                                                                    Mismatches
                                                                                                                                                                                                                                                                                                89
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       for treating various seases and cancer,
                                                                                                                                                                                                                                                                                                                                                                                                  9
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RESULT 8
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Best Local
                                                                                                                                                                                                                                                                                                                                                                                     Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                is derived from the plasminogen protien, and comprises amino acids 99-467. Greenstatin is also derived from plasminogen, and comprises amino acids 101-354. Angiostatin and greenstatin are used as thrombolytic factors and angiogenesis inhibitory proteins. Angiostatin contains the kringle 1-4 region of plasminogen, and greenstatin contains the kringle 1-3 region of plasminogen, and greenstatin contains the kringle 1-4 region of plasminogen, and greenstatin contains the kringle 1-3 region of plasminogen, and greenstatin contains a high specification describes a method for the purification of such angiogenesis inhibitory proteins. The method comprises solubilising the proteins, produced as inclusion bodies in Escherichia coli and glutathione. The angiogenesis inhibitory proteins specifically inhibit proliferation of vascular endothelial cells, but not that of non-endothelial cancers or normal cells. The angiogenesis inhibitory
Angiogenesis inhibitor; plasminogen; human; K4 protease; snake venom; cobra; antimetastatic; cytostatic; antitumo prostate cancer; breast cancer; colon cancer; lung cance
                                                                                                                                   AAY79226;
                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 proteins are used to suppress angiogenesis, specifically for treating cancers (e.g. of lung, skin and brain) or ophthalmic diseases (e.g. glaucoma and diabetic retinopathy), but also arthritis and psoriasis.
                                                                Angiogenesis inhibitor obtained by plasminogen cleavage.
                                                                                                  19-JUN-2000
                                                                                                                                                                  AAY79226 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      The present sequence represents the human angiostatin protein. It
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Claim 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Purifying angiogenesis inhibitors produced as Escherichia coli, useful as anticancer agents
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WPI; 2000-086703/07
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27-MAY-1999;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               diabetic retinopathy; arthritis; psoriasis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (GREC ) KOREA GREEN CROSS CORP
                                                                                                                                                                                                                                                                                                                   276
                                                                                                                                                                                                                                                                                   19
                                                                                                                                                                                                                                                                                                                                                                                                   Similarity
                                                                                                                                                                                                                                                                            GPWCFTTDPSIRWEYCNLTRCSDTEGTVV 89
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        So SH, Chang S;
                                                                                                                                                                                                                                                                                                                   VQDCYHGDGQSYRGTSSTTTTGKKCQSWSSMTPHRHQKTPENYPNAGLTMNYCRNPDADK 335
                                                                                                                                                                                                                                                                                                                                                   VRQCYHGNGQSYRGTFSTTVTGRTCQSWSSMTPHRHQRTPENYPNDGLTMNYCRNPDADT 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Page 45-47; 55pp; English.
                                                                                                                                                                                                                                                   GPWCFTTDPSVRWEYCNLKKCSGTEASVV 364
                                                                                                                                                                                                                                                                                                                                                                                                                                                   369 AA;
                                                                                                                                                                                                                                                                                                                                                                                   Conservative
                                                                                                (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             98KR-0019535.
99KR-0019144.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ahn BC,
                                                                                                                                                                  Protein; 374
                                                                                                                                                                                                                                                                                                                                                                                                 84.9%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Lee H,
                                                                                                                                                                                                                                                                                                                                                                             7;
                                                                                                                                                                                                                                                                                                                                                                                  Score 444; DB 21;
Pred. No. 2.8e-37;
7; Mismatches 9;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Kim Y,
                                                                                                                                                                                                                                                                                                                                                                              9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       recombinant proteins in and for treating ocular
                 antitumour;
                                                                                                                                                                                                                                                                                                                                                                                                                 Length 369;
                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Lee JH,
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RESULT 9
AAY79225
ID AAY7
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AC AAY7
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DT 19-J
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                                                                                                                                                                                                                                                                                                  Matches
                                                                                                                                                                                                                                                                                                                               Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            The present sequence represents a preferred angiogenesis inhibitor of the invention that is obtained by cleavage of human plasminogen with spitting cobra (Naja nigricollis nigricollis) venom K4 protease and plasmin. The K4 protease cleaves native plasminogen following amino acid residue 452, with little or no disruption of the first 4 plasminogen kringles. Plasmin cleaves between residues 77 and 78 of human plasminogen. Thus, the present protein spans amino acid residues 78-451 of plasminogen. The angiogenesis inhibitors obtained from plasminogen can be used to inhibit tumour growth in a mammal preferably human. They are useful for treating angiogenesis associated diseases such as: solid tumours, prosetate cancer, breast cancer, colon cancer and lung cancer (claimed);
                                                                                                                                                                                                                                                                                                                                                                Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                              blood-borne tumors such as leukaemia; metastasis; benign tumours; rheumatoid arthritis; psoriasis; ocular angiogenic diseases; myocardial angiogenesis; plaque neovascularization; telangiectasia; haemophiliac joints; angiofibroma; wound granulation; excessive or abnormal stimulation of endothelial cells; and as birth control
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                New angiogenesis inhibitors useful for treating solid tumors, leukemias, tumor metastasis, benign tumor, rheumatoid arthritis, psoriasis and ocular angiogenic diseases -
                  19-JUN-2000
                                                 AAY79225;
                                                                                AAY79225
                                                                                                                                                                                                                                                                                                                                                                                                  cumour.
                                                                                                                                                                                                                                                                                                                                                                                                                agents by preventing vascularization required for embryo implantation. The inhibitors are administered also to extend the dormancy of micrometastases and to stabilize any residual primary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Claim 1; Fig 10; 72pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mann KG,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   20-AUG-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    19-AUG-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    02-MAR-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WO200010506-A2
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WPI; 2000-246485/21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      leukaemia; metastasis; contraceptive; therapy.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (UYVE-)
                                                                                                                                                                                                                                                                                                                Local
                                                                                                                                                                 337
                                                                                                                                                                                                                                  277 VQDCYHGDGQSYRGTSSTTTTGKKCQSWSSMTPHRHQKTPENYPNAGLTMNYCRNPDADK 336
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     sapiens
                                                                                                                                                                                      61 GPWCFTTDPSIRWEYCNLTRCSDTEGTVV 89
                                                                                                                                                                                                                                                                                                73;
                                                                                                                                                                                                                                                                <u>س</u>
                                                                                                                                                                                                                                                                                                                 Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  UNIV VERMONT & STATE AGRIC COLLEGE
                                                                                  standard; Protein; 375
                                                                                                                                                                 GPWCFTTDPSVRWEYCNLKKCSGTEASVV 365
                                                                                                                                                                                                                                                  VRQCYHGNGQSYRGTFSTTVTGRTCQSWSSMTPHRHQRTPENYPNDGLTMNYCRNPDADT 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Jenny NS;
                                                                                                                                                                                                                                                                                                                                                                  374
                                                                                                                                                                                                                                                                                                  Conservative
                  (first entry)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Location/Qualifiers 264
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /note- "N-glycosylated"
                                                                                                                                                                                                                                                                                                                84.9%;
82.0%;
                                                                                                                                                                                                                                                                                               Score 444; DB 21;
Pred. No. 2.9e-37;
7; Mismatches 9;
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                                                                                                                                                                                                                                                                                                                                 Length 374;
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Angiogenesis inhibitor obtained by plasminogen cleavage

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RESULT 10
AAW07579
ID AAW07
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                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                               The present sequence represents a preferred angiogenesis inhibitor of the invention that is obtained by cleavage of human plasminogen (Naja nigricollis) reproduced of human plasminogen (Naja nigricollis) venom K4 protease cleaves of human plasminogen (CC protease and plasmin. The K4 protease cleaves native plasminogen (CC the first 4 plasminogen kringles. Plasmin cleaves between residues (CC the first 4 plasminogen kringles. Plasmin cleaves between residues (CC the first 4 plasminogen kringles. Plasmin cleaves between residues (CC the first 4 plasminogen. Thus, the present protein spans (CC the first 4 plasminogen. Thus, the present protein spans (CC the first 4 plasminogen. Thus, the present protein spans (CC the first 4 plasminogen can be used to inhibit tumour (CC the first 4 plasminogen can be useful for treating (CC the first 4 plasminogen can be useful for treating (CC the first 4 plasminogen can be useful for treating (CC the first 4 plasminogen can be useful for treating (CC the first 4 plasminogen can be useful for treating (CC cancer, breast cancer, colon cancer and lung cancer (claimed); (CC the first 5 plasminogen cancer (claimed); (CC the first 5 plasminogen cancer and lung cancer (claimed); (CC myocardial angiogenesis; plaque neovascularization; telangiectasia; (CC the first 5 plasminogen collar angiogenic diseases; (CC aspants by preventing vascularization required for embryo (CC aspants by preventing vascularization required for embryo (cc the first 5 plasminogen cancer and the stabilize any residual primary (cc the first 5 plasminogen cancer and the stabilize any residual primary (cc the first 6 plasminogen cancer (claimed); (cc the 
                                                                                                                                                                                                                                                                                                 Matches
                                                                                                                                                                                                                                                                                                                    Best Local
                                                                                                                                                                                                                                                                                                                                            Query Match
AAW07579 standard; protein; 378 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  New angiogenesis inhibitors useful for treating solid tumors, leukemias, tumor metastasis, benign tumor, rheumatoid arthritis, psoriasis and ocular angiogenic diseases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Angiogenesis inhibitor; plasminogen; human; K4 protease; snake venom; cobra; antimetastatic; cytostatic; antitumour prostate cancer; breast cancer; colon cancer; lung cancer; leukaemia; metastasis; contraceptive; therapy.
                                                                                                                                                                                                                                                                                                                                                                                         Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Claim 1; Fig 9; 72pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mann KG,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   19-AUG-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                02-MAR-2000.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Modified-site
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WO200010506-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Homo sapiens
                                                                                                                                                                                                       278
                                                                                                                                                          61 GPWCFTTDPSIRWEYCNLTRCSDTEGTVV 89
                                                                                                                                                                                                                                                                                                 73;
                                                                                                                                                                                                                                                                                                                         Similarity
                                                                                                                                                                                                       VQDCYHGDGQSYRGTSSTTTTGKKCQSWSSMTPHRHQKTPENYPNAGLTMNYCRNPDADK 337
                                                                                                                                                                                                                                      VRQCYHGNGQSYRGTFSTTVTGRTCQSWSSMTPHRHQRTPENYPNDGLITMNYCRNPDADT 60
                                                                                                                                                                                                                                                                                                                                                                                           375
                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                 TTDPSVRWEYCNLKKCSGTEASVV 366
                                                                                                                                                                                                                                                                                                                                                                                           8
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Location/Qualifiers 265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /note-
                                                                                                                                                                                                                                                                                                                    84.9%;
82.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        "N-glycosylated"
                                                                                                                                                                                                                                                                                          7;
                                                                                                                                                                                                                                                                                               Score 444; DB 21
Pred. No. 2.9e-37
7; Mismatches
                                                                                                                                                                                                                                                                                                                                              DB 21;
                                                                                                                                                                                                                                                                                                   9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        antitumour; tumour;
                                                                                                                                                                                                                                                                                                                                            Length 375;
                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                 0
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27-OCT-2000 AAB16450; AAB16450

(first entry)

standard;

Protein; 378

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RESULT 11
AAB16450
ID AAB16
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AC AAB16
XX
DT 27-OC
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   human, Rhesus, porcine or bovine plasminogen and is a kringle 1, kringle 2, kringle 2-3, kringle 1-3, kringle 1-2, kringle 1-14 kringle 2-3, kringle 2-3, kringle 1-2, kringle 1-2, kringle 1-4 kringle 1-4 kringle 1-2, kringle 1-4 kringle 1-4 kringle 1-2, kringle 1-2, kringle 1-4 kringle 1-2, kringle 1-2,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Use of angiostatin fragments or aggregates - for inhibiting endothelial cell proliferation and treating angiogenesis-mediated diseases, e.g. cancer, arthritis or diabetic retinopathy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        inhibiting endothelial cell proliferation, using as active component an angiostatin fragment, a combination of angiostatin fragments, or aggregate angiostatin. The fragment is preferably derived from murine, aggregate angiostatin.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              08-MAR-1996;
26-APR-1995;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  angiostatin; plasminogen; kringle; angiogenesis; cancer; arthritis;
macular degeneration; diabetic retinopathy.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Human kringle 1-4BKLS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           The invention relates to new methods and compositions for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Claim 4; Page 140-141; 203pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            diseases, e.g. cancer,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WPI; 1996-518662/51.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              26-APR-1996;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WO9635774-A2.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (CHIL-) CHILDRENS MEDICAL CENT
                                                                                                                                                                                                                                                            342
                                                                                                                                                                                                                                                                                                            61 GPWCFTTDPSIRWEYCNLTRCSDTEGTVV 89
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  73;
                                                                                                                                                                                                                                                                                                                                                                                                             1 VRQCYHGNGQSYRGTFSTTVTGRTCQSWSSMTPHRHQRTPENYPNDGLTMNYCRNPDADT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Similarity
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                                                                                                                                                                                                                                                                                                                                                               VQDCYHGDGQSYRGTSSTTTTGKKCQSWSSMTPHRHQKTPENYPNAGLTMNYCRNPDADK 341
                                                                                                                                                                                                                                                               GPWCFTTDPSVRWEYCNLKKCSGTEASVV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           378
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A,
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95US-0429743
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             84.9%;
82.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Lin J, Oreilly MS,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 444; DB 17; I
Pred. No. 2.9e-37;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 378;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
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AAM48894
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                                                                                                                                                                                                                                                                                                                                                                                                                               CC similar to that of a plasminogen fragment (see murine plasminogen)

CC AAB16490). Angiostatin has the ability to inhibit angiogenesis.

CC Endostatin is also an angiogenesis inhibiting protein (see AAB16451 and CC AAA68203). Sequences AAA68242 and AAB16522 represent coding and protein,

CC and some of the peptides AAA68242 and AAB16522 represent coding protein,

CC and some of the peptides of the invention share homology with regions of

CC laminin. Peptides AAB16452-B16521 (excluding AAB16490) are the

CC angiogenesis-inhibiting protein receptor fragments of the invention. The

CC angiogenesis-inhibiting protein receptor fragments of the invention. The

CC peptides bind either angiostatin or endostatin and can be used in methods

CC gettides bind either angiostatin or endostatin and can be used in methods

CC cohn as solid tumours, psoriasis, scleroderma, myocardial angiogenesis,

CC Crohn's disease, cerebral collaterals, arteriovenous malformations,

CC crobsis, diabetic retinopathy, arthritis, wound healing, peptic ulcers,

CC Helicobacter related diseases, fractures, placentation and cat scratch

CC fever. They are useful for the detection and prognosis of cancer. DNA
                                                                                                                                                                                                                                                                                          Query Match
Best Local S
Matches 73
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Angiogenesis-inhibiting protein receptor; angiogenesis; angiostatin; endostatin; plasminogen; laminin; treatment; wound healing; solid tu psoriasis; scleroderma; myocardial angiogenesis; Crohn's disease; cerebral collateral; arteriovenous malformation; rubeosis; cancer; diabetic retinopathy; arthritis; wound healing; peptic ulcer; Helicobacter related disease; fracture; cat scratch fever.
                                                                                                                                                                                                                                                                                                                                                                             Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      the DNA sequences encoding them. Angiogenesis is the generation of numblood vessels into a tissue, and normally occurs in wound healing, foetal and embryonal development and the formation of the corpus luteriod endometrium and placenta. Angiostatin is a protein (see AAB16450 and AAA66202) involved in angiogenesis, and has an amino acid sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             New angiogenesis-inhibiting protein receptors, useful in methods for treating diseases and processes that are mediated by angiogenesis, su as solid tumours, psoriasis, scleroderma and myocardial angiogenesis
                     AAM48894 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                    sequences
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Disclosure; Figure 2; 100pp; English.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       invention relates to angiogenesis-inhibiting protein receptors, DNA sequences encoding them. Angiogenesis is the generation of n
                                                                                                                                                                                                          282
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                                                                                                                                                                                                                                                                                                                Similarity
                                                                                                                                               GPWCFTTDPSIRWEYCNLTRCSDTEGTVV
                                                                                                                                                                                                                                  VRQCYHGNGQSYRGTFSTTVTGRTCQSWSSMTPHRHQRTPENYPNDGLTMMYCRNPDADT 60
                                                                                                                                                                                                          VQDCYHGDGQSYRGTSSTTTTGKKCQSWSSMTPHRHQKTPENYPNAGLTMNYCRNPDADK 341
                                                                                                                         GPWCFTTDPSVRWEYCNLKKCSGTEASVV 370
                                                                                                                                                                                                                                                                                                                                                                                                                    A628204-A628241 encode the peptides of the invention
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                     Protein;
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Pred. No. 2.9e-37;
7; Mismatches 9;
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RESULT 13
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                                                                                                                                                                                                                                                                                                                                                                                                 The present invention relates to methods of regulating angiogenesis in individual by administering an angiogenesis regulating composition comprising a tropomyosin binding compound or an actin disrupting compound. The compositions are useful for treating diseases and process mediated by angiogenesis including haemangioma, solid tumours, blood bourne tumours, leukaemia, metastasis, Crohn's disease, "coronary or cerebral collaterals, arthritis, diabetic neovascularisation, macular degeneration, wound healing, Helicobacter related diseases, ovulation, menstruation, and cat scratch fever. The present sequence is a protein described in the exemplification of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Human; angiostatin; endostatin; angiogenesis; cancer; metastasis; psoriasis; scleroderma; Crohn's disease; corneal disease; psoriasis; arthritis; wound healing; Helicobacter pylori; peptic ulcer; gene therapy; angiostatin antagonist; endostatin antagonist; antiangiogenic; cytostatic; antiarthritic; antiinflammatory; cerebroprotective; antidibetic; virucide; antipyretic; vulnerary;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Regulating angiogenesis and treatment of angiogenesis-mediated diseases, e.g. hemangioma, tumors or cancer, by administering
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sim
                                                                                                                                                                                                                                                                                                                                                                        Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Disclosure; Fig 2; 95pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          diseases, e.g. hemangioma, tumors or cancer, by administe tropomyosin binding compound or actin disrupting compound
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WPI; 2002-130569/17
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08-MAY-2001;
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                                                                                                                                                                                    GPWCFTTDPSVRWEYCNLKKCSGTEASVV 370
                                                                                                                                                                                                                   GPWCFTTDPSIRWEYCNLTRCSDTEGTVV 89
                                                                                                                                                                                                                                              VQDCYHGDGQSYRGTSSTTTTGKKCQSWSSMTPHRHQKTPENYPNAGLTWNYCRNPDADK 341
                                                                                                                                                                                                                                                                              VRQCYHGNGQSYRGTFSTTVTGRTCQSWSSMTPHRHQRTPENYPNDGLTMNYCRNPDADT 60
                                                                                                                                                                                                                                                                                                                                                                        378 AA;
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2001US-289387P.
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82.0%;
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Pred. No. 2.9e-37;
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A multifunctional protein of the

invention

16-JUL-1999

(first entry)

AAY02105

standard; Protein; 380

Angiostatin; endostatin; interferon;

thrombospondin;

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RESULT 14
AAW51457
ID AAW51
XX AAW51
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        improved half-life or decreased adverse since continuous and these properties. The proteins can be used for treating an angiogenic-mediated disease, e.g. cancer, diabetic retinopathy, macular degeneration, or arthritis. They can also be used for inhibiting the production of tumor cells (characteristic of lung, breast, ovarian, prostate, pancreatic, gastric, colon, renal, bladder cancers; melanoma, hepatoma, sarcoma and lymphoma) in a patient and for inhibiting tumor hepatoma, sarcoma and lymphoma in a patient and for inhibiting tumor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    interferon-inducible protein and platelet factor 4, and have anti-angiogenic and/or anti-tumor activity. The multifunctional protein may exhibit useful properties such as having similar or greater biological activity when compared to a single factor or by having improved half-life or decreased adverse side effects, or a combination of these properties. The proteins can be used for treating an
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          interferon-inducible protein; platelet factor 4; anti-angiogenic;
anti-tumor; multifunctional protein; angiogenic-mediated disease;
cancer; diabetic retinopathy; macular degeneration; arthritis;
                Human plasminogen; neovascularisation; angiostatin; inhibition; elastase; Sepharose.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    The specification describes multifunctional proteins which comprise combinations of angiostatin, endostatin, interferon, thrombospondin,
                                                               Human plasminogen
                                                                                                 02-SEP-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence
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growth. The present sequence represents a multifunctional
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Claim 5; Page 100-101; 121pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  New multifunctional proteins useful for treating angiogenic-mediated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WPI; 1999-255098/21
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                                                                                                                                                              AAW51457 standard; protein; 437
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                                                                 fragment
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                                                                                                                                                                                                                                                                                                                                                                  7;
                                                                 with neovascularisation inhibiting activity.
                                                                                                                                                                                                                                                                                                                                                                            Score 444; DB 20;
Pred. No. 2.9e-37;
7; Mismatches 9;
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VRQCYHGNGQSYRGTFSTTVTGRTCQSWSSMTPHRHQRTPENYFNDGLTMNYCRNFDADT

VQDCYHGDGQSYRGTSSTTTTGKKCQSWSSMTPHRHQKTPENYPNAGLTMNYCRNPDADK

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89 89

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GPWCFTTDPSIRWEYCNLTRCSDTEGTVV

GPWCFTTDPSVRWEYCNLKKCSGTEASVV

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Query Match
Best Local S
Matches 73
                                                                  amino acids 355-791 of human plasminogen. Also claimed are a method for the preparation of angiostatin, and angiostatin prepared by this method. The human plasminogen protein fragment is prepared by: (a) applying human plasminogen to a lysine Sepharose column to separate it into plasminogen form 1 and form 2; (b) separating plasminogen form 1 and form 2 and digesting them with elastase; (c) fractionating the elastase-decomposed product of form 1 plasminogen and form 2 plasminogen in a lysine sepharose column; (d) collecting the fractions bound to the lysine sepharose column; (e) further fractionating the form 2 plasminogen using an Aminohexal Sepharose column; and (f) collecting the fraction bound to the Aminohexal Sepharose column; This human plasminogen fragment can be used to inhibit growth of vascular endothelial cells. The present sequence represents amino acids 355-791 of human plasminogen.
                                                                                                                                                                                                                                                                                      Human plasminogen derived polypeptide - has neovascularisation inhibiting activity
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                                                 Sequence
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                                                                                                                                                                                                                                                               Claim 1; Page 2; 16pp; Japanese.
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 Score 444; DB 19;
Pred. No. 3.4e-37;
7; Mismatches 9
                          19;
  9
                        Length 437;
   Indels
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  Gaps
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RESULT 15
AAY79224
     mammal, preferably human. They are useful for treating angiogenesis-associated diseases such as: solid tumours, prostate cancer, obreast cancer, colon cancer and lung cancer (claimed); blood-borne tumors such as leukaemia; metastasis; benign tumours; blood-arthritis; psoriasis; ocular angiogenic diseases; myocardial angiogenesis; plaque neovascularization; telangiectasia; haemophiliac joints; angiofibroma; wound granulation; excessive or abnormal stimulation of endothelial cells; and as birth control
                                                                                                             The present sequence represents an angiogenesis inhibitor obtained by cleavage of human plasminogen with snake venom K4 protease from spitting cobra (Naja nigricollis nigricollis). The K4 protease cleaves the plasminogen following amino acid residue 452, producing an angiogenesis inhibitor with little or no disruption of the first 4 plasminogen kringles. Further, preferred angiogenesis inhibitors of the invention are obtained by plasmin cleavage of this K4 protease-cleaved plasminogen fragment (see ANY79225 and ANY79226). angiogenesis inhibitors are used for inhibiting tumour growth in a mammal, preferrably human. They are useful for treating
                                                                                                                                                                                                                                                                                                  Claim 14; Fig 8; 72pp; English.
                                                                                                                                                                                                                                                                                                                             New angiogenesis inhibitors useful for treating solid tumors, leukemias, tumor metastasis, benign tumor, rheumatoid arthritis, psoriasis and ocular angiogenic diseases
                                                                                                                                                                                                                                                                                                                                                                                                 WPI; 2000-246485/21.
                                                                                                                                                                                                                                                                                                                                                                                                                                   Mann
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Anglogenesis inhibitor; plasminogen; human; K4 protease; snake venom; cobra; Naja nigricollis nigricollis; metastatic; cytostatic; antitumour; tumour; prostate cancer; breast cancer; colon cancer; lung cancer; leukaemia; metastasis; contraceptive;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Angiogenesis
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (UYVE-) UNIV VERMONT & STATE AGRIC COLLEGE.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 therapy.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    98US-0097244
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   99WO-US18877.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /label= Gln, Glu
67
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /note= "terminal activation peptide" 57..58
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /note- "N-glycosylated"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /note- "N-glycosylated"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                note= "residue may be absent'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  452
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Matches
                                                                                                                                        Query Match
                                                                                                                                                                                                        agents by preventing vascularization required for embryo implantation. The inhibitors are administered also to extend the dormancy of micrometastases and to stabilize any residual primary
                                                                                                                                                                    Sequence
                                                                                                                            Local
415
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              61 GPWCFTTDPSIRWEYCNLTRCSDTEGTVV 89
                                                                      1 VRQCYHGNGQSYRGTFSTTVTGRTCQSWSSMTPHRHQRTPENYPNDGLTMNYCRNPDADT 60
                                                                                                                            Similarity
GPWCFTTDPSVRWEYCNLKKCSGTEASVV 443
                                                    VQDCYHGDGQSYRGTSSTTTTGKKCQSWSSMTPHRHQKTPENYPNAGLIWNYCRNPDADK 414
                                                                                                                                                                    452
                                                                                                            Conservative
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                                                                                                                         84.9%;
82.0%;
                                                                                                           7; Mismatches
                                                                                                                           Score 444; DB 21
Pred. No. 3.5e-37
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                                                                                                                                        Length 452;
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Search completed: January 12, 2004, 17:23:21 Job time: 35.4662 Becs

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Result
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Perfect score:
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Maximum DB
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Maximum Match 100%
Listing first 45 summaries
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                              Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                      Score
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1: /cgn2=6/ptodata/1/pubpaa/US07 PUBCOMB.pep:*

2: /cgn2-6/ptodata/1/pubpaa/US06 NEW PUB.pep:*

3: /cgn2-6/ptodata/1/pubpaa/US06 NEW PUB.pep:*

4: /cgn2-6/ptodata/1/pubpaa/US07 NEW PUB.pep:*

5: /cgn2-6/ptodata/1/pubpaa/US07 NEW PUB.pep:*

6: /cgn2-6/ptodata/1/pubpaa/US08 NEW PUB.pep:*

7: /cgn2-6/ptodata/1/pubpaa/US08 NEW PUB.pep:*

8: /cgn2-6/ptodata/1/pubpaa/US08 PUBCOMB.pep:*

9: /cgn2-6/ptodata/1/pubpaa/US09 PUBCOMB.pep:*

10: /cgn2-6/ptodata/1/pubpaa/US09 PUBCOMB.pep:*

11: /cgn2-6/ptodata/1/pubpaa/US09 NEW PUB.pep:*

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18: /cgn2-6/ptodata/1/pubpaa/US0 NEW PUB.pep:*

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length: 2000000000
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Match
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Copyright (c) 1993 - 2004 Compugen Ltd.
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US-09-335-325-42
US-10-131-241-42
US-10-304-287-8
US-10-304-287-8
US-09-946-893-4
US-09-946-893-8
US-09-946-893-8
US-09-946-893-8
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US-09-751-708A-126
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Sequence 126, App
Sequence 42, Appl
Sequence 42, Appl
Sequence 42, Appl
Sequence 1, Appli
Sequence 42, Appli
Sequence 42, Appli
Sequence 8, Appli
Sequence 8, Appli
Sequence 6, Appli
Sequence 1, Appli
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US-10-131-241-1	US-10-402-364-1	US-09-335-325-1	US-09-873-676-81	761-	US-09-788-142-1	US-10-402-364-46	US-09-761-120-46	US-10-131-241-41	US-10-402-364-41	US-09-335-325-41	US-09-761-120-41	US-10-292-418-40	US-10-157-369-4	US-10-157-369-2	-10-131-241	-10-402-364	US-10-402-364-23	US-10-267-137-9	US-09-335-325-23	US-09-761-120-23	US-09-753-064-5	US-10-131-241-40	US-10-402-364-40	US-09-335-325-40	US-09-761-120-40	US-10-292-418-11	US-10-193-656-2	US-10-237-144-1	US-09-946-893-2
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ALIGNMENTS

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TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR TREATMENT OF NEOPLASTIC DISEASE FILE REFERENCE: 870759
CURRENT APPLICATION NUMBER: US/09/870,759
CURRENT FILING DATE: 2002-01-14
PRIOR APPLICATION NUMBER: US 60/208,128
PRIOR FILING DATE: 2000-05-30
NUMBER OF SEQ ID NOS: 166
SOFTWARE: Patentin version 3.1
SEQ ID NO 126
LENGTH: 126
RESULT 2
US-09-751-708A-126
; Sequence 126, Application US/09751708A
; Publication No. US20030157113A1
; GENERAL INFORMATION:
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Best Local &
                                                                                                                                                                                                                                                                                                   Matches
                                                                                                                                                                                                                                                                                                                                                                                           LENGTH: 1169
TYPE: PRT
ORGANISM: Homo sapiens
                                                                                                                                              802 GPWCFTMDPSIRWEYCNLTRCSDTEGTVV 830
                                                                                                                                                                                                                      742 VRQCYHGNGQSYRGTFSTTVTGRTCQSWSSMTPHRHQRTPENYPNDGLTMNYCRNPDADT 801
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Similarity 98.9%;
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Pred. No. 9e-49;
0; Mismatches
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RESULT 3
US-09-761-120-42
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TITLE OF INVENTION: COMPOSITIONS AND METHODS
FILE REFERENCE: 751708
CURRENT APPLICATION NUMBER: US/09/751,708A
CURRENT FILING DATE: 2002-10-15
PRIOR APPLICATION NUMBER: US 60/173,371
PRIOR FILING DATE: 1999-12-28
NUMBER OF SEQ ID NOS: 166
SOFTWARE: PatentIn version 3.1
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Patent No. US20020037847A1
GENERAL INFORMATION:
APPLICANT: Folkman, M. Judah
APPLICANT: Folkman, M. Judah
APPLICANT: Polkman, M. Judah
APPLICANT: O'Reilly, Michael
TITLE OF INVENTION: Nucleic Acids Encoding Kringle 1-5 Region Fragments of Plasminoge
FILE REFERENCE: 05940-0151 (43171-252068)
CURRENT APPLICATION NUMBER: US/09/761,120
CURRENT FILING DATE: 2001-01-16
PRIOR APPLICATION NUMBER: 09/309,821
PRIOR APPLICATION NUMBER: 09/309,821
PRIOR FILING DATE: 1999-05-11
PRIOR APPLICATION NUMBER: 08/866,735
PRIOR RILING DATE: 1997-05-30
NUMBER OF SEQ ID NOS: 47
OCCUPANCE: DESCRIPTION OF SEQ ID NOS: 47
Sequence 42, Application US/10402364
Publication No. US20040002459A1
GENERAL INFORMATION:
APPLICANT: O'Reilly, Michael
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LENGTH: 1169
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ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LENGTH: 368
TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                     NAME/KEY: misc_feature
OTHER INFORMATION: Kringle 1-4 BKLS
                                                                                                                                                                                                                                                                                                                                         Match 85.5%;
Local Similarity 82.0%;
                                                                                                                                                              332
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                                                                                                                                                            61 GPWCFTTDPSIRWEYCNLTRCSDTEGTVV 89
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                                                                                                                                                                                                                                                                               1 VRQCYHGNGQSYRGTFSTTVTGRTCQSWSSMTPHRHQRTPENYPNDGLTMNYCRNPDADT 60
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Pred. No. 9e-49;
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Pred. No. 1.5e-41;
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                                                                                                                                                                                                                                                                                                                                                           Length 368;
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; ORGANISM: Homo
US-09-873-676-1
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APPLICANT: MacDonald, Nicholas J.
APPLICANT: Sim, Kim L.
APPLICANT: 05213-0378 (43170-259333)
FILE REFERENCE: 05213-0378 (43170-259333)
CURRENT APPLICATION NUMBER: US 60/209,065
PRIOR APPLICATION NUMBER: US 60/209,065
PRIOR APPLICATION NUMBER: US 60/209,387
PRIOR APPLICATION NUMBER: US 60/209,387
                                                                                                                                                                                                                                                                                                                        SOFTWARE: PatentIn version 3.1
SEQ ID NO 1
LENGTH: 378
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SEQ ID NO 42
LENGTH: 368
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Best Local (
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Best Local
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TITLE OF INVENTION: Nucleic Acids Encoding Kringle 1-5 Region Fragments of Plasminoger FILE REFERENCE: 05213-2151 (43170-252068)
CURRENT APPLICATION NUMBER: US/10/402,364
CURRENT FILING DATE: 2003-03-28
PRIOR FILING DATE: 2001-01-16
PRIOR PAPPLICATION NUMBER: US/09/761,120A
PRIOR PAPPLICATION NUMBER: 09/309,821
PRIOR APPLICATION NUMBER: 09/309,821
PRIOR APPLICATION NUMBER: 08/866,735
PRIOR APPLICATION NUMBER: 08/866,735
PRIOR FILING DATE: 1999-05-11
PRIOR APPLICATION NUMBER: 08/866,735
PRIOR PILING DATE: 1999-05-20
NUMBER: 05 SEQ ID NOS: 52
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NUMBER OF SEQ ID NOS: 123
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OTHER INFORMATION: Kringle 1-4 BKLS
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                                                                                   282 VQDCYHGDGQSYRGTSSTTTTGKKCQSWSSMTPHRHQKTPENYPNAGLIMNYCRNPDADK 341
342 GPWCFTTDPSVRWEYCNLKKCSGTEASVV 370
                        61 GPWCFTTDPSIRWBYCNLTRCSDTEGTVV 89
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                                                                                                            Similarity
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Pred. No. 3.4e-41;
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Pred. No. 1.5e-41;
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RESULT 6 US-09-335-325-42

Application US/09335325

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                                                                            Sequence 42, Application US/10131241 Publication No. US20030012792A1 GENERAL INFORMATION:
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GENERAL INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
APPLICANT: Holaday, John W.
APPLICANT: Fortier, Anne H.
TITLE OF INVENTION: Compositions and Methods for Inhibiting Endothelial Cell Prolifer
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INFORMATION FOR SEQ ID NO: 42:
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PELLING DATE: -UNKNOWN:

ATTORNEY/AGENT INFORMATION:

NAME: Warren, William L.

REGISTRATION NUMBER: 36,714

REFERENCE/DOCKET NUMBER: 05213-0126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/335,325
FILING DATE: 17-Jun-1999
CLASSIFICATION: <Unknown>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FRAGMENT TYPE: N-terminal ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TOPOLOGY: linear MOLECULE TYPE: protein
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE DESCRIPTION: SEQ ID NO: 42:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ANTI-SENSE: NO
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                                                                                                                                                                                                                                                                             GPWCFTTDPSIRWEYCNLTRCSDTEGTVV 89
                                                                                                                                                                                                                                     GPWCFTTDPSVRWEYCNLKKCSGTEASVV 370
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OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
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                                                                                                                                                                                                                                                                                                                                                                                                          84.9%; Score 444; DB 10; Length 378;
82.0%; Pred. No. 3.4e-41;
tive 7; Mismatches 9; Indels
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US-10-304-287-8
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                                                                                                                                                                                                                                                                                                                                            SEQ ID NO 7
LENGTH: 391
TYPE: PRT
ORGANISM: mammalian
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Best Local S
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                                                                                                                                                                                                                                                                                                                                                                                                                                          CURRENT FILING DATE: 2002-11-26
PRIOR APPLICATION NUMBER: US 60/333,866
PRIOR FILING DATE: 2001-11-28
NUMBER OF SEQ ID NOS: 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: Kwon, Mijung
TITLE OF INVENTION: Anti-angiogenesis methods, compositions and uses therefor
FILE REFERENCE: ME02-001
CURRENT APPLICATION NUMBER: US/10/304,287
CURRENT FILING DATE: 2002-11-26
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PRIOR FILING DATE: 1999-05-21
PRIOR APPLICATION NUMBER: US 60/086,586
PRIOR FILING DATE: 1998-05-22
                                                                                                                                                                                                                                                                                                                                                                                                                                SOFTWARE: Microsoft Word
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ORGANISM: Homo sapiens
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                                                                                                          61 GPWCFTTDPSIRWEYCNLTRCSDTEGTVV 89
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Similarity 82.0%;
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                                                                                                                                                                                                                                                             84.9%;
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Pred. No. 3.5e-41;
7; Mismatches 9;
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Pred. No. 3.4e-41;
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Sequence 8, Application US/10304287 Publication No. US20030083234A1 GENERAL INFORMATION:

APPLICANT: Waisman, David M. APPLICANT: Kwon, Mijung TITLE OF INVENTION: Anti-angiogenesis methods, compositions and uses therefor

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                                                                                                                                                                                                                                                              RESULT 11
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US-09-946-893-4
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Sequence 5, Application US/09946893
Patent No. US20020072494A1
GENERAL INFORMATION:
APPLICANT: Cao, Yihai
TITLE OF INVENTION: Materials and methods relating to endothelial cell growth
TITLE OF INVENTION: inhibitors
FILE REFERENCE: Memburn
CURRENT APPLICATION NUMBER: US/09/946,893
CURRENT APPLICATION NUMBER: US/09/946,893
PRIOR APPLICATION NUMBER: US 60/230,893
PRIOR TILING DATE: 2000-09-05
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Patent No. US20020072494A1
GENERAL INFORMATION:
APPLICANT: Cao, Yihai
TITLE OF INVENTION: Materials and methods relating to endothelial cell
TITLE OF INVENTION: inhibitors
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SEQ ID NO 8
LENGTH: 394
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Best Local Similarity 82.0%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRIOR APPLICATION NUMBER: US 60/230,893
PRIOR FILING DATE: 2000-09-05
NUMBER OF SEQ ID NOS: 11
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FILE REFERENCE: ME02-001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SOFTWARE: PatentIn Ver. 2.1
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TYPE: PRT
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nilarity 82.0%;
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Pred. No. 4.2e-41;
7; Mismatches 9
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Pred. No. 3.6e-41;
7; Mismatches 9
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SOFTWARE: PatentIn Ver. 2.1
SEQ ID NO 5
LENGTH: 569
TYPE: PRT
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CURRENT FILING DATE: 2001-09-05
PRIOR APPLICATION NUMBER: US 60/230,893
PRIOR FILING DATE: 2000-09-05
NUMBER OF SEQ ID NOS: 11
SOPTWARE: Patentin Ver. 2.1
SEQ ID NO 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 8, Application US/09946893 Patent No. US20020072494A1 GENERAL INFORMATION:
               Sequence 6, Application US/09946893 Patent No. US20020072494A1
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Best Local :
GENERAL INFORMATION
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TITLE OF INVENTION: Materials and methods relating to endothelial cell growth
TITLE OF INVENTION: inhibitors
FILE REFERENCE: Mewburn
                                                                                                                                                                                                                                                                                                                                                                                                                        TYPE: PRT ORGANISM: Artificial Sequence FEATURE:
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Pred. No. 5.4e-41;
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Pred. No. 5.3e-41;
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CURRENT APPLICATION NUMBER: US/09/946,893
CURRENT FILING DATE: 2001-09-05
PRIOR APPLICATION NUMBER: US 60/230,893

PRIOR FILING DATE: 2000-09-05

APPLICANT: Cao, Yihai
TITLE OF INVENTION: Materials and methods relating to endothelial cell growth
TITLE OF INVENTION: inhibitors
FILE REFERENCE: Mewburn

NUMBER OF SEQ ID NOS: 11
SOFTWARE: PatentIn Ver. 2.1
SEQ ID NO 6
LENGTH: 576

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Sequence 1, Application US/10304287
Publication No. US20030083234A1
GENERAL INFORMATION:
APPLICANT: Waisman, David M.
APPLICANT: Kwon, Mijung
TITLE OF INVENTION: Anti-angiogenesis methods, compositions and uses therefor
FILE REFERENCE: ME02-001
CURRENT APPLICATION NUMBER: US/10/304,287
CURRENT FILING DATE: 2002-11-26
PRIOR APPLICATION NUMBER: US 60/333,866
PRIOR FILING DATE: 2001-11-28
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CURRENT FILING DATE: 2001-09-26
PRIOR APPLICATION NUMBER: US 60/236,550
PRIOR FILING DATE: 2000-09-29
NUMBER OF SEQ ID NOS: 7
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 1
LENGTH: 791
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APPLICANT: Abbott Laboratories
APPLICANT: Henkin, Jack
APPLICANT: Davidson, Donald J.
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Best Local Similarity 82.0%;
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ORGANISM: Artificial Sequence
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ORGANISM: Homo sapiens
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Local Similarity 82.0%;
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SOFTWARE: Microsoft Word
SEQ ID NO 1
LENGTH: 791
TYPE: PRT
ORGANISM: mammalian
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                                                                                                                            Query Match 84.9
Best Local Similarity 82.0
Matches 73; Conservative
                                                    355 VQDCYHGDGQSYRGTSSTTTTGKKCQSWSSMTPHRHQKTPENYPNAGLTWNYCRNPDADK 414
415 GPWCFTTDPSVRWEYCNLKKCSGTEASVV 443
                     61 GPWCFTTDPSIRWEYCNLTRCSDTEGTVV.89
                                                                                    1 VRQCYHGNGQSYRGTFSTTVTGRTCQSWSSMTPHRHQRTPENYPNDGLTMNYCRNPDADT 60
                                                                                                                                            84.9%;
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Pred. No. 7.6e-41;
7; Mismatches 9;
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2 (cgn2_6/ptcdata/1/iaa/5B_COMB.pep:*

3 (cgn2_6/ptcdata/1/iaa/6A_COMB.pep:*

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5 (cgn2_6/ptcdata(1/iaa/backfIles1.pep:*

6 (cgn2_6/ptcdata/1/iaa/backfIles1.pep:*
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(c) 1993 - 2004
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US-09-377-250-3

US-09-377-250-2

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US-09-335-325-42

US-09-377-250-1

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US-08-469-486-54

US-08-643-219-1

US-08-643-219-1

US-08-831-350-1

US-08-831-350-1

US-08-851-350-1

US-08-91-761A-1

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US-09-132-12-5

US-09-132-12-5

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Sequence 5
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Sequence 42,
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Patent No. 6365364

GENERAL INFORMATION:
APPLICANT: MANN, KENNETH G.
APPLICANT: SWORDS JENNY, NANCY
APPLICANT: SWORDS JENNY, NANCY
FILE REFERENCE: 48409/360

CURRENT APPLICATION NUMBER: US/09/377,250

CURRENT FILING DATE: 1999-08-19

NUMBER OF SEQ ID NOS: 5

SOFTWARE: Patentin Ver. 2.0

SEQ ID NO 3
RESULT 2
US-09-377-250-2
; Sequence 2, Application US/09377250
; Patent No. 6365364
; Patent No. 6365364
; GENERAL INFORMATION:
; APPLICANT: MANN, KENNETH G.
; APPLICANT: SWORDS JENNY, NANCY
TITLE OF INVENTION: ANGIOGENESIS INHIBITORS AND USERS THEREOF
; FILE REFERENCE: 48409/360
; CURRENT APPLICATION NUMBER: US/09/377,250
; CURRENT FILING DATE: 1999-08-19
; NUMBER OF SEQ ID NOS: 5
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US-09-377-250-3
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Best Local S
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NAME/KEY: MOD_RES
LOCATION: (264)
OTHER INFORMATION: X
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LENGTH: 374
TYPE: PRT
ORGANISM: Homo sapiens
FEATURE:
OTHER INFORMATION: angiogenesis inhibitor
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Similarity 82.0%;
73; Conservative
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US-08-240-839-4
US-08-612-708-23
US-08-763-528A-5
US-09-335-325-23
US-08-991-761A-7
US-08-991-761A-13
US-08-991-761A-13
US-09-335-325-41
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US-09-335-325-41
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US-08-4451-932-1
US-08-451-932-1
US-08-451-932-1
US-08-452-260-1
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Pred. No. 1.8e-42;
7; Mismatches 9
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; NAME/KEY: MOD_RES

; LOCATION: (265)

; OTHER INFORMATION: Xaa = Gln or Glu

US-09-377-250-2
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US-08-612-788-42
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                                                                                                                                                                               TELEFAX: 404-818-3799
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 378 amino acid
                            MOLECULE TYPE: p
HYPOTHETICAL: NO
ANTI-SENSE: NO
FRAGMENT TYPE: N
ORIGINAL SOURCE:
ORIGINAL SOURCE:
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OTHER INFORMATION: anglogenesis inhibitor
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ORGANISM: Homo sapiens IMMEDIATE SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                        SOFTWARE: PatentIn Release #1.0, Version #1.30 CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                         TELECOMMUNICATION INFORMATION: TELEPHONE: 404-818-3700
                                                                                                                                                                                                                                                                                                                                                ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                           REGISTRATION NUMBER: 36,714
REFERENCE/DOCKET NUMBER: 05213-0126
                                                                                                                                                                                                                                                                                                                                                                                  APPLICATION NUMBER: FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                            STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                     CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COUNTRY: U.S. ZIP: 30303-1769
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Similarity 82.0%;
73; Conservative
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                                                                                                                                                                 amino acid
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Sim, B. Kim Lee
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US-08-612-788-42
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Best Local Similarity 82...
Thes 73; Conservative
Query Match
Best Local Similarity 82.0
Thes 73; Conservative
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Patent No.
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                                                                                                                                                                                                                                                                                                                                                                                          PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/612,78
PILING DATE:
ATTORNEY/AGENT INFORMATION:
NAME: WAITEN, William L.
REGISTRATION NUMBER: 36,714
REFERENCE/DOCKET NUMBER: 0521
                                                                                                       ANTI-SENSE: NO
FRAGMENT TYPE: N-terminal
ORIGINAL SOURCE:
ORGANISM: Homo sapiens
IMMEDIATE SOURCE:
CLONE: K1-4BKLS
                                                                                                                                                                                                                                                                                                                          TELEFAX: 404-818-3799
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: Cao, Yihai
APPLICANT: Sim, B. Kim Lee
TITLE OF INVENTION: Angiost
                                                                                                                                                                                                                                                                                         SEQUENCE CHARACTERISTICS:
LENGTH: 378 amino acid
                                                                                                                                                                                                                                                                                                                                                                           TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                       MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FILING DATE:
CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CITY: Atlanta
                                                                                                                                                                                                                                                           STRANDEDNESS
                                                                                                                                                                                                                                                                       LENGTH: 378 amino acids
TYPE: amino acid
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                             TELEPHONE:
                                                                                                                                                                                                                                           POPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       342 GPWCFTTDPSVRWEYCNLKKCSGTEASVV 370
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Y: U.S.
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                                      84.9%;
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Pred. No. 1.8e-42;
7; Mismatches 9
                        Score 444; DB 3;
Pred. No. 1.8e-42
7; Mismatches
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RESULT 6
US-09-335-325-42
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US-09-206-059-1
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Patent No. 6521439
GENERAL INFORMATION:
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APPLICANT: MacDonald, Nicholas
APPLICANT: Sim, Kim Lee
TITLE OF INVENTION: Angiogenesis-Inhibiting Protein Binding Peptides and
TITLE OF INVENTION: Proteins and Methods of Use
FILE REFERENCE: 05213-0370
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Best Local Similarity 82.0
Matches 73; Conservative
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Patent No. 6201104
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CURRENT FILING DATE: 1998-12-04
NUMBER OF SEQ ID NOS: 80
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ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LENGTH: 378
                              COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Ver
CURRENT APPLICATION NUMBER: US/09/335,325
FILLING DATE: 17-Jun-1999
CLASSIFICATION: CUnknown>
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                              CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                    Cao, Yihai
Sim, B. Kim Lee
TITLE OF INVENTION: Angiostatin Fragments and Method of Use
NUMBER OF SEQUENCES: 45
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: Folkman, M. Judah
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                                                                                                                                                                                                                                                                                            STATE: Georgia
                                                                                                                                                                                                                                                                                                                CITY: Atlanta
APPLICATION NUMBER: US/08/612,788 FILING DATE: <Unknown>
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                                                                                                                                               Version #1.30
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; LICATION: (341)
; OTHER INFORMATION: Xaa = Gln or Glu
US-09-377-250-1
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SEQ ID NO 1
LENGTH: 451
TYPE: PRT
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                                                                           Matches
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CURRENT FILING DATE: 1999-08-19
NUMBER OF SEQ ID NOS: 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: MANN, KENNETH G.
APPLICANT: SWORDS JENNY, NANCY
TITLE OF INVENTION: ANGIOGENESIS INHIBITORS AND USERS THEREOF
FILE REFERENCE: 48409/360
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INFORMATION FOR SEQ ID NO: 42:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                       ORGANISM: Homo sapiens
FEATURE:
OTHER INFORMATION: plasminogen fragment
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                                                                                                                                                                                                                                                                NAME/KEY: MOD RES
                                                                                             Local
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REGISTRATION NUMBER: 36,714
REFERENCE/DOCKET NUMBER: 05:
TELECOMMUNICATION INFORMATION:
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TOPOLOGY: linear
MOLECULE TYPE: protein
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 354 VQDCYHGDGQSYRGTSSTTTTGKKCQSWSSMTPHRHQKTPENYPNAGLTMNYCRNPDADK 413
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                         1 VRQCYHGNGQSYRGTFSTTVTGRTCQSWSSMTPHRHQRTPENYPNDGLTMNYCRNPDADT 60
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                                                                                             Similarity
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                                                                                           84.9%;
                                                                                                                                                                                                                                                Gln or Glu
                                                                         Score 444; DB 4; Length 451; Pred. No. 2.2e-42; 7; Mismatches 9; Indels
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US-09-377-250-4
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APPLICANT: MANN, KENNETH G.
APPLICANT: SWORDS JENNY, NANCY
APPLICANT: INVENTION: ANGIOGENESIS INHIBITORS AND USERS THEREOF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NUMBER OF SEQ ID NOS: 5
SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO 4
LENGTH: 452
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CURRENT APPLICATION NUMBER: US/09/377,250
CURRENT FILING DATE: 1999-08-19
                                         ZIP: 02110-2804
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1 2
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LOCATION: (342)
OTHER INFORMATION: Xaa = Gln or Glu
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LOCATION: (53)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FEATURE:
                                                                                                                                                                                                                                                                        TITLE OF INVENTION: Improved TITLE OF INVENTION: proteins NUMBER OF SEQUENCES: 58
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/469,486
                                                                                                                                                                                                                                                                                                                                                APPLICANT:
                                                                                                                                                                                                                                                        CORRESPONDENCE ADDRESS
                                                                                                                                                                                             STREET: 225 |
CITY: Boston
                                  SOFTWARE:
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o. 5739281
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1 Similarity 82.0%;
73; Conservative
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                                                                                                                                                                                  Massachusetts
                                                                                                                                                                                                                      225 Franklin Street
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                                     PatentIn Release #1.0, Version #1.25
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Patent No. 5
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Best Local 9
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INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS
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REFERENCE/DOCKET NUMBER: 06.
TELECOMUNICATION INFORMATION:
TELEPHONE: 617 542 5070
TELEPAX: 617 542 8906
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FILING DATE: February 4, ATTORNEY/AGENT INFORMATION: NAME: Paul T. Clark
CLASSIFICATION: 530
ATTORNEY/AGENT INFORMATION:
NAME: Paul T. Clark
REGISTRATION UNMBER: 30,162
REFERENCE/DOCKET NUMBER: 06363/002002
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                ZIP: 02110-2804
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                             NUMBER OF SEQUENCES: 58
CORRESPONDENCE ADDRESS:
ADDRESSEE: Fish & Richardson
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: Holtet, The APPLICANT: Etzerodt,
                                                                                                                                                CLASSIFICATION: 530 PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRIOR APPLICATION DATA:
APPLICATION NUMBER:
                                                                                                                                                                                                                            CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Local Similarity
mes 73; Conserv
                                                                                                              APPLICATION NUMBER: 08/192,060 FILING DATE: February 4, 1994
                                                                                                                                                                                    APPLICATION NUMBER: US/08 FILING DATE: June 5, 1995
                                                                                                                                                                                                                                        SOFTWARE: PatentIn Release #1.0, Version SOFTWARE: #1.25
                                                                                                                                                                                                                                                                              COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                             CITY: Boston
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TOPOLOGY:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TYPE: amino acid
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                                                                                                                                                                                                                                                                                                                                                                       COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            414 GPWCFTTDPSVRWEYCNLKKCSGTEASVV 442
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61 GPWCFTTDPSIRWEYCNLTRCSDTEGTVV 89
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                                                                                                                                                                                                                                                                                                                                                                                          Massachusetts
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                                                                                                                                                                                                                                                                                                                                                                                                                            225 Franklin Street
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                                                                                                            February 4, 1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     IMPROVED METHOD FOR THE REFOLDING OF PROTEINS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Michael
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                                                                                                                                                                                                         US/08/469,658
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Pred. No. 4.4e-42;
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RESULT 11
US-08-643-219-1
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Best Local :
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                                       Query Match
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INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                           INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 791 amino acid
TYPE: amino acid
                                                                                                                                                                                                                                               ATTORNEY/AGENT INFORMATION:
NAME: Casuto, Dianne
REGISTRATION NUMBER: 40,943
REFERENCE/DOCKET NUMBER: 5940
TELECOMMUNICATION INFORMATION:
TELEPHONE: 847-938-3137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                      APPLICATION NUMBER: US
FILING DATE: 06-MAY-1S
CLASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER:
FILING DATE:
                                                                                                            MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                          SOFTWARE: FastSEQ Version 2.0 CURRENT APPLICATION DATA:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MOLECULE TYPE: protein
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ADDRESSEE: Abbott Laboratories
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Y Maccn 84.9%;
Local Similarity 82.0%;
1es 73; Conservative
                                                                                                                             TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMPUTER: IBM Compatible OPERATING SYSTEM: DOS
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Local Similarity 82.0%;
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                                                                                          DESCRIPTION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         73;
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VENTION: NOVEL ANTIANGIOGENIC PEPTIDES

VENTION: AND METHODS FOR INHIBITING ANGIOGENESIS
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                                                                                        protein
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                                                                                                                                                                                                                                                                                   5940.US.P1
     Score 444; DB 1;
Pred. No. 4.4e-42;
7; Mismatches 9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 444; DB 2; Length 790; Pred. No. 4.4e-42;
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                                      DB 1; Length 791;
       Indels
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US-09-131-995-1
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Patent No. 5972896
GEMERAL INFORMATION:
APPLICANT: Davidson, Donald J.
                                                                                                                                       Matches
                                                                                                                                                        Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                   TELEX:
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                      NAME: Casuto, Dianne REGISTRATION NUMBER: 40,943 REFERENCE/DOCKET NUMBER: 59
TELECOMMUNICATION INFORMATION: TELEPHONE: 847-938-3137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COMPUTER: IBM Compatible
OPERATING SYSTEM: DOS
SOFTWARE: FastSEQ Version 2.0
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ZIP: 60064
COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                              SEQUENCE CHARACTERISTICS:
LENGTH: 791 amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NUMBER OF SEQUENCES: 14
CORRESPONDENCE ADDRESS:
ADDRESSEE: Abbott Laboratories
STREET: 100 Abbott Park Road
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FILING DATE: 06-MAY-1996
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICATION NUMBER: US/08/832,0 FILING DATE: 03-APR-1997 APPLICATION NUMBER: 08/643,219
                                                                                                                                                                                                                                                                            LENGTH: 791 amino acids
TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FILING DATE:
CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CITY: Abbott Park
STATE: IL
                                                                                                                                                                                                                                                                  TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MEDIUM TYPE:
                                                                                                                                                                                                                                                                                                                                                                     TELEFAX: 847-938-2623
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICATION NUMBER: US/09/131,995
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                                                                   355 VQDCYHGDGQSYRGTSSTTTTGKKCQSWSSMTPHRHQKTPENYPNAGLTMNYCRNPDADK 414
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                61 GPWCFTTDPSIRWEYCNLTRCSDTEGTVV 89
                                                                                        1 VRQCYHGNGQSYRGTFSTTVTGRTCQSWSSMTPHRHQRTPENYPNDGLTMNYCRNPDADT 60
                                                                                                                                       73;
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 GPWCFTTDPSVRWEYCNLKKCSGTEASVV 443
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                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                 linear
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                                                                                                                                                        84.9%;
82.0%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US/08/832,087
                                                                                                                                    Score 444; DB 2; 1
Pred. No. 4.4e-42;
7; Mismatches 9;
                                                                                                                                                                                                                                                                                                                                                                                                                             5940.US.P1
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                                                                                                                                                                        Length 791;
                                                                                                                                       Indels
                                                                                                                                       0
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RESULT 13 US-08-832-087B-1

; Sequence 1, Application US/08832087B ; Patent No. 5981484

GENERAL INFORMATION:

APPLICANT: Davidson, Donald J.
TITLE OF INVENTION: NOVEL ANTIANGIOGENIC PEPTIDES
TITLE OF INVENTION: AND METHODS FOR INHIBITING ANGIOGENESIS

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, MOLECULE TYPE:
, DESCRIPTION: protein
US-08-832-087B-1
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                                                                                                                                                                                                                                                                                                                                           RESULT 14
                                                                                                                                                                                                                                                                              Sequence 1, Application US/08851350
Patent No. 6057122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      INFORMATION FOR SEQ ID NO: SEQUENCE CHARACTERISTICS: LENGTH: 791 amino acid
                                                                                                                                                                                                                                                                GENERAL INFORMATION:
ZIP: 60064-3500
COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
                                                                                                                                                                                      APPLICANT: Abbott Laboratories
TITLE OF INVENTION: POLYMUCLEOTIDES ENCODING SAME AND METHODS
TITLE OF INVENTION: POLYMUCLEOTIDES ENCODING SAME AND METHODS
TITLE OF INVENTION: FOR INHIBITING ANGIOGENESIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CLASSIFICATION: 514
PRIOR APPLICATION DATE: 08/643,219
PILLING DATE: 06-MAY-1996
PILLING DATE: 10FORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SOFTWARE: FASTSEQ Version 2.0 CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/832
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMPUTER READABLE FORM:
MEDIUM TYPE: Diskett
COMPUTER: IBM Compat
OPERATING SYSTEM: DO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NUMBER OF SEQUENCES: 14
CORRESPONDENCE ADDRESS:
ADDRESSE: Abbott Laboratories
STREET: 100 Abbott Park Road
CITY: Abbott Park
STATE: IL
                                                                                                           NUMBER OF SEQUENCES: 38
CORRESPONDENCE ADDRESS:
ADDRESSEE: Abbott Laboratories
STREET: 100 Abbott Park Road
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                REGISTRATION NUMBER: 40,943
REFERENCE/DOCKET NUMBER: 59
TELECOMMUNICATION INFORMATION:
TELEPHONE: 847-338-3137
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                                                                          COUNTRY:
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Similarity 82.0%;
73; Conservative
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                                                        USA
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RESULT 15
US-09-132-154-1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Patent No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 1, Application US/09132154
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Best Local S
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                                                                                                                                                                                                                                                                                                                                                                                                                                                        GENERAL INFORMATION: APPLICANT: Davids
             PRIOR APPLICATION DATA:
APPLICATION NUMBER: US/08/832,08
FILING DATE: 03-APR-1997
APPLICATION NUMBER: 08/643,219
FILING DATE: 06-MAY-1996
ATTORNEY_AGENT INFORMATION:
NAME: Casuto, Diamne
                                                                                                                                                                              COMPUTER READABLE FORM:
MEDIUM TYPE: Diakette
COMPUTER: IBM Compatible
OPERATING SYSTEM: DOS
SOFTWARE: FastSEQ Version 2.0
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ATTORNEY/AGENT INFORMATION:
NAME: Casuto, Dianne
REGISTRATION NUMBER: 40,943
REFERRENCE/DOCKET NUMBER: 5940
TELECOMMUNICATION INFORMATION:
TELEPHONE: 847-938-3137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/1
FILING DATE: 05-MAY-1007
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DESCRIPTION:
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PRIOR APPLICATION DATA:
APPLICATION NUMBER:
FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                       TITLE OF INVENTION:
TITLE OF INVENTION:
NUMBER OF SEQUENCES:
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                                                                                                                                                                                                                                                                                                                                   STREET: 100 Abbott
CITY: Abbott Park
NAME: Casuto, Dianne REGISTRATION NUMBER:
                                                                                                                                 CLASSIFICATION:
                                                                                                                                                                    APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                      COUNTRY: USA
ZIP: 60064
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TELEFAX: 847-938-2623
                                                                                                                                                                                                                                                                                                                                                                        ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              355 VQDCYHGDGQSYRGTSSTTTTGKKCQSWSSMTPHRHQKTPENYPNAGLTMNYCRNPDADK 414
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             61 GPWCFTTDPSIRWEYCNLTRCSDTEGTVV 89
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                                                                                                                                                                                                                                                                                                                                                        E: Abbott Laboratories
100 Abbott Park Road
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82.0%;
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40,943
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Pred. No. 4.4e-42;
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INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 791 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE:
DESCRIPTION: protein
US-09-132-154-1
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Search completed: January 12, 2004, 17:27:15 Job time : 12.7143 secs
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                                                                                                                                                                                                                                                                                                                                                                                                                   REFERENCE/DOCKET NUMBER: 5940.US.P1
TELECOMMUNICATION INFORMATION:
TELEPHONE: 847-938-3137
TELEPAX: 847-938-2623
                                                               61 GPWCFTTDPSIRWEYCNLTRCSDTEGTVV 89
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Maximum DB :
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Perfect score:
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Maximum Match 100%
Listing first 45 summaries
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   Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
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243.5
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seq length: 2000000000
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1: Pir1:*
2: Pir2:*
3: Pir3:*
4: Pir4:*
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                      hepatocyte growth plasmin precursor neurotrophic recep thrombin (EC 3.4.2 thrombin (EC 3.4.2
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t-plasminogen
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A;Reference number: 152415; MUID:92207924; PMID:1554698 A;Accession: 152415
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45	44	43	42	41	40	39	38	37	36	35 5	34	33	32	31	30
138	139.5	140	142	142.5	143	146	154	154	160	163.5	163.5	165.5	174.5	178.5	184
27.2			28.0	28.1	28.1	28.7	30.3	30.3	31.5	32.2	32.2	32.6	34.4	35.1	36.2
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S18932	\$45281	T18840	A48289	JC4795	UKMS	UKPG	A46688	A35029	A29941	A45082	JC5878	S28941	A47299	KFHU12	A35827
u-plasminogen acti	coagulation factor	hypothetical prote	neurotrophic recep	plasma hyaluronan-	u-plasminogen acti	u-plasminogen acti	hepatocyte growth	t-plasminogen acti	t-plasminogen acti	neurotrophic recep	plasma hyaluronan-	coagulation factor	ror-related recept	coagulation factor	thrombin (EC 3.4.2

ALIGNMENTS

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A;Cross-references: GB:M86877; NID:g178780; PIDN:AAB49909.1; PID:g553185 A;Note: apo(a) gene 1 (nomenclature of reference I52415) A;Accession: I65286 A;Status: preliminary; translated from GB/EMBL/DDBJ A;Molecule type: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A; Map position: 6q26-6q27
A; Note: several genes closely linked on chromosome 6
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                                                                                                                                                                                                                                                                         F;3676-3753/Domain:
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                                                                                                                       Best Loc
Matches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ;Molecule type: DNA
;Residues: 1-16 <RE3>
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;1054-1131/Domain: kringle homology <KR10>
;1168-1245/Domain: kringle homology <KR11>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      484-561/Domain: kringle homology <KR5-
575/Domain: kringle homology <KR6-
712-789/Domain: kringle homology <KR7-
826-903/Domain: kringle homology <KR8-
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256-333/Domain: kringle homology <KR3>
370-447/Domain: kringle homology <KR4>
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                                                                                                                                                                                                                                                                                                                                   3220-3297/Domain:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2-1359/Domain:
                                                                                                                                    Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     15/Domain:
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                             5
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                                                                                                                                     Similarity
                            INGPWCYTMNPRKLFDYCDIPLCASS
                                                          EQDCMFGNGKGYRGKKATTVTGTPCQEWAAQEPHRHSTF1PGTNKWAGLEKNYCRNPDGD
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A;Residues: 1-810 <TOM>
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A;Cross-references: GB.J04697; NID:g342272; PIDN:AAA36901.1; PID:g342273
A;Cross-references: GB.J04697; NiD:g342272; PIDN:AAA36901.1; PID:g342273
C;Superfamily; plasmin, kringle homology; plasminogen-related protein hydrolase; kringle; serine proteinase
C;Keywords: fibrinolysis; glycoprotein; hydrolase; kringle; serine proteinase
F;1-96_Domain: plasminogen-related protein precursor homology <PLPH>
F;1-96_Domain: plasminogen-related protein precursor homology <PLPH>
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[plasmin (EC 3.4.21.7) precursor - rhesus macaque
C;Species: Macaca mulatta (rhesus macaque)
C;Date: 31-Mar-1989 #sequence revision 31-Mar-1989 #text_change 22-Jun-1999
C;Accession: B32869; B30848
                                                                                                                                                                                                                                                                                  A;Experimental source: leukocyte; lung fibroblast R;Malgaretti, N.; Bruno, L.; Pontoglio, M.; Candiani, G.; Biochem. Biophys. Res. Commun. 173, 1013-1018, 1990 A;Title: Definition of the transcription initiation site c A;Reference number: I52242; MUID:91097523; PMID:2268308 A;Accession: I52242
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F;481-560/Domain: kringle homology <KR5+
F;481-863/Domain: trypsin homology <TRY>
F;481-803/Domain: trypsin homology <TRY>
F;49-73,53-61,103-181,124-164,152-176,185-262,188-316,206-245,234-257,275-352,296-335,324
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A;Title: Molecular cloning and characterization of a full-length cDNA clone for human plan,Reference number: A26646; MUID:87162490; PMID:3030813
                                                               A;Cross-references: GB:M62890; NID:g190092; PIDN:AAA36454.1; PID:g553613 R;Forsgren, M.; Raden, B.; Israelsson, M.; Larsson, K.; Heden, L.O. FEBS Lett. 213, 254-260, 1987
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A; Molecule type: DNA
A; Residues: 1-810 < PET>
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N;Alternate names: plasminogen precursor [misnomer]
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                                                                                                                                                                                 A;Molecule type: DNA
A;Residues: 1-16 <MAL1>
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4; Mismatches
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Y.; Ji, R.W.; Davidson, D.; Schaller, J.; Marti, D.; l. Chem. 271, 29461-29467, 1996

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S.; McCance, S.G.;

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A; Contents: annotation; active site
R; Groskopf, W.R.; Summaria, L.; Robbins, K.C.
J. Biol. Chem. 244, 3590-3597, 1969
A; Title: Studies on the active center of human plasmin. Partial ami A; Reference number: A92048; MUID:69234739; PMID:4240117
A; Contents: annotation; active site
R; Trexler, M.; Vali, Z.; Patthy, L.
J. Biol. Chem. 257, 7401-7406, 1982
A; Title: Structure of the omega-aminocarboxylic acid-binding sites
A; Reference number: A92382; MUID:82213905; PMID:691959
A; Contents: annotation; omega-aminocarboxylic acid binding sites
R; Vali, Z.; Patthy, L.
T, Patthy, L.
T, Patthy, L.
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A;Accession: A04626
A;Molecule type: protein
A;Residues: 483-507,'E',509-604 <WI3>
R;Robbins, K.C.; Bernabe, P.; Arzadon, L.; Summaria, L.
J. Biol. Chem. 248, 1631-1633, 1973
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submitted to the Atlas,
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Eur. J. Biochem. 58, 539-547, 1975
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A; Residues: 20-50, 'Q'_51-71, 'E', 73-85, 87-100 <WI2>
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A;Residues: 20-71,'E',73-85,87-106,'D',108-360,'E',362-810 <SOT>
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                              ;Title: The fibrin-binding site of human plasminogen. Arginines 32 and 34 are essential;Reference number: A92458; MUID:85054794; PMID:6094526
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ;Title: The primary structure of human plasminogen. II.;Reference number: A92125; MUID:73149248; PMID:4694729
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   Contents: annotation;
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Sottrup-Jensen, L.; Petersen, T.E.;
bmitted to the Atlas, July 1977
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Residues: 292-471, 'D', 473-810 <MAL2>
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Experimental source: liver
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Residues: 367-419
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relationship be
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omega-aminocarboxylic acid binding site
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Lergier, W.;
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R;Rejante, M.; Llinas, M. submitted to the Brookhaven Protein Data Bank, A;Reference number: A65803; PDB:1HPJ
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Biochemistry 30, 10576-10588, 1991
A;Title: Crystal and molecular structure of human plasminogen
A;Title: Crystal and molecular structure of human plasminogen
Bur. J. Biochem. 221, 927-937, 1994
A;Title: (1)H-NMR assignments secondary structure of human plasminogen kringle
A;Reference number: 843645; MUID:94237157; PMID:8181475
A;Contents: annotation; conformation by (1)H-NMR, residues 96-184
                                                                                                                                                                                                                  A; Contents: annotation; c
R; Rejante, M.; Llinas, M.
                                                                                                                                                                                                                                                                                                                                                                            A;Contents: annotation; X-ray crystallography, R;Stec, B.; Teeter, M.M.; Whitlow, M.; Yamano, submitted to the Brookhaven Protein Data Bank, A;Reference number: A65980; PDB:1KRN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Biochemistry 31, 270-279, 1992
A;Title: Crystal structure of the kringle 2 domain of tissue
A;Reference number: A39483; MUID:92118803; PMID:1310033
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Biochemistry 30, 10589-10594, 1991
A;Title: The refined structure of the epsilon-aminocaproic acid A;Reference number: A58818; MUID:92031503; PMID:1657149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     R; Wu, T.P.; Padmanabhan, K.; Tulinsky, A.; Mulichak,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           submitted to the Brookhaven Protein Data Bank, A;Reference number: A52408; PDB:1PMK A;Contents annotation; X-ray crystallography, R;Tulinsky, A.; Mathews, I.I.
                                                                                 R;Rejante, M.R.; Llinas, M. Eur. J. Biochem. 221, 927-9
                                                                                                                                A; Reference number: A65804; PDB:1HPK A; Contents: annotation; conformation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              submitted to the Brookhaven Protein Data Bank,
A;Reference number: A65245; PDB:1CEB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 submitted to the Brookhaven Protein Data Bank, A;Refearence number: A65244; PDB:1CEA A;Contents: annotation; X-ray crystallography, B:Tillingty A . Marhaus T T
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        R;Wu, T.P.; Tulinsky, A. submitted to the Brookhaven Protein Data Bank, A;Reference number: A51911; PDB:1PKR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A; Contents: annotation; X-ray crystallography, R; Tulinsky, A.; Wu, T.P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             submitted to the Brookhaven Protein Data Bank, July 1991 A; Reference number: A51341; PDB:1PK4
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A, Title: Generation of an angiostatin-like fragment from A, Reference number: A58812; MUID:9548733; PMID:9548733
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                                                                                                                                                                                      submitted to the Brookhaven Protein Data Bank, August 1996
                                                                                                                                                                                                                                                                                                                                                  A; Contents: annotation;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A; Reference number: A51488; PDB: 2PK4
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                                                                                                                                   (1) H-NMR,
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Eur. J. Biochem. 221, 939-949, 1994
A;Title: Solution structure of the epsilon-aminohexanoic
A;Reference number: A58817; MUID:94237158; PMID:8181476

acid complex of human plasminoge

R; Rejante, M.R.; Llinas,

A;Contents: annotation; C;Comment: Plasminogen C;Comment: Plasminogen

annotation; conformation by (1)H-NMR Plasminogen is synthesized by the kidney and is present in plasma and many oth Plasminogen is converted to plasmin by plasminogen activators (see PIR:UKHU ar

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A;Pathway: fibrinolysis
A;Pathway: fibrinolysis
A;Pathway: fibrinolysis
A;Pathway: fibrinolysis
A;Pathway: fibrinolysis
C;Keywords: angiogenesis inhibitor; blood; duplication; fibrinolysis;
F;1-96/Domain: plasminogen-related protein precursor homology <PLPH>
F;1-96/Domain: signal sequence #status predicted <STGO>
F;1-19/Domain: signal sequence #status predicted <STGO>
F;20-810/Product: plasminogen #status experimental <PRO>
F;20-96/Domain: activation peptide #status experimental <AST>
F;79-466/Product: angiostatin #status experimental <AST>
F;79-466/Product: plasmin #status experimental <AST>
F;79-466/Product: plasmin #status experimental <AST>
                                                                                                                              A; Molecule type: protein
A; Molecule type: protein
A; Residues: 1-37; 38-117 < SCH>
R; Schaller, J.; Straub, C.; Kaempfer, U.; Rickli, E.E.
Protein Seq. Data Anal. 5, 21-25, 1992
Protein Seq. Data Anal. 5, 21-25, 1992
A; Title: Complete amino acid sequence of ovine miniplasminogen.
A; Reference number: S28200; MUID: 93149995; PMID: 1492092
A; Accession: S28200
A; Molecule type: protein
A; Molecule type: protein
A; Molecule type: protein
A; Residues: 118-460 < SC2>
C; Superfamily: plasmin; kringle homology; plasminogen-related protein precursor homology
C; Superfamily: plasmin; kringle homology; plasminogen-related protein proteinase; z; 1-37, 38-117, 118-460/Product: plasminogen (fragments) #status experimental < PPRO>
F; 1-37/Domain: activation paptide (fragments) #status experimental < APPT>
F; 1-37/Domain: activation paptide (fragments) #status experimental < APPT>
F; 1-37/Domain: activation paptide (fragments) #status experimental < APPT>
F; 1-37/Domain: activation paptide (fragments) #status experimental < APPT>
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F; 1-37/Domain: activation paptide (fragments) #status experimental < APPT>
F; 1-37/Domain: activation paptide (fragments) #status experimental < APPT>
F; 1-37/Domain: activati
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F;97-580/Domain: plasmin chain A #status experimental <CHA>
F;103-181/Domain: kringle homology <KR1>
F;185-262/Domain: kringle homology <KR2>
F;275-352/Domain: kringle homology <KR3>
F;377-454/Domain: kringle homology <KR3>
F;377-454/Domain: kringle homology <KR5>
F;377-454/Domain: kringle homology <KR5>
F;377-454/Domain: kringle homology <KR5>
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C;Comment: Plasmin is inactivated by alpha-2-antiplasmin (see PIR:ITHUA2) immediately af rg-580, resulting in two chains connected by two disulfide bonds. Without the inhibitor, C;Comment: Microplasmin is formed by autolytic cleavage of plasmin under artificial cond c;Comment: Stromelysin 1 (see PIR:KCHUS1) acts on plasminogen to produce angiostatin. To ting solid tumors.

C;Genetics:
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A;Introns: 17/1; 62/2; 98/1; 136/2; 183/1; 223/2; 263/1; 317/2; 366/1; 419/2; 480/1; 529
C;Function:
F;38-117,118-230,231-460/Product: plasmin (fragments) #status F;41-118/Domain: kringle homology <KR4> F;118-460/Product: miniplasminogen #status experimental <MIN>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Enzyme 40, 63-69, 1988
A;Title: Structural aspects of the plasminogen of various species
A;Reference number: A61545; MUID:89005015; PMID:3168975
A;Accession: B61545
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A;Gene: GDB:PLG
A;Cross-references: GDB:119498; OMIM:173350
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Enzyme 40, 63-69, 1988
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Species: Ovis orientalis aries, Ovis Date: 28-Oct-1994 #sequence_revision; Accession: B61545; $28200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local (
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61 INGPWCYTMNPRKLFDYCDIPLCAS 85
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3.4.21.7) precursor
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Pred. No. 1.
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01-Nov-1996 #text_change 17-Mar-1999
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.7e-38;
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A;Title: Structural aspects of the plasminogen of various species.

A;Reference numbber: A61545; MUID:89005015; PMID:3168975

A;Accession: A61545

A;Molecule type: protein

A;Residues: 1-33,34-117 <SCH>
A;Schaller, J.; Straub, C.; Kaempfer, U.; Rickli, E.E.

P;Schaller, Data Anal. 4, 69-74, 1991

A;Title: Complete amino acid sequence of equine miniplasminogen.

A;Reference number: S17527; MUID:92052077; PMID:1946332

A;Reference number: S17527; MUID:92052077; PMID:1946332

A;Recule type: protein

A;Residues: 118-455 /SC24;

A;Residues: 118-455 /SC24;

C;Superfamily; plasmin; kringle homology; plasminogen-related protein

C;Superfamily; plasmin; kringle homology; plasmingen: #status experime

C;Keywords: fibrinolysis; glycoprotein; hydrolase; kringle; plasma; se

F;1-33,34-117,118-455/Product: plasmin (fragments) #status experime

F;34-117,118-225,26-455/Product: plasmin (fragments) #status experime

F;37-114/Domain: kringle homology <KR4>

F;118-455/Product: plasmin (fragments) #status experime
                                                                                                                                                                                                                                                                                      F;118-455/Product: miniplasminogen #status experimental <MIN>F;126-205/Domain: kringle homology <KR5>F;226-455/Domain: plasmin chain B #status experimental <BCH>F;226-448/Domain: trypsin homology <TRY>F;267,310,405/Active site: His, Asp, Ser #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             N;Contains: miniplasminogen
C;Species: Equus Caballus (domestic hor
C;Date: 28-Oct-1994 #sequence_revision
C;Accession: A61545; S17527
R;Schaller, J.; Rickli, E.E.
Enzyme 40, 63-69, 1988
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      F;132-211/Domain: kringle homology <KR5>
F;236-460/Domain: plasmin chain B #status experimental <BCH>
F;226-450/Domain: trypsin homology <TRY>
F;231-453/Domain: trypsin homology <TRY>
F;272,315,410/Active site: His, Asp, Ser #status predicted
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183
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                                             61 INGPWCYTMNPRKLFDYCDIPLCASS 86
                                                                                                                                                                                            69;
                                                                                                                                              1 EQDCMFGNGKGYRGKKATTVTGTPCQEWAAQEPHRHSTFIPGTNKWAGLEKNYCRNPDGD
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                                                                                                EPDCMLG1GKGYQGKKATTVTGTRCQAWAAQEPHRHS1FTPEANPWANLEKNYCRNPDGD
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                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     kringle homology; plasminogen-related protein precursor homology;
s; glycoprotein; hydrolase; kringle; plasma; serine proteinase; z)
roduct; plasminogen (fragments) #status experimental <PRO>
                                                                                                                                                                                                                   81.7%;
80.2%;
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82.6%;
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                                                                                                                                                                                                                      Score 415;
Pred. No. 3.
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Pred. No. 3.1e-3
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                                                                                                                                                                                                                      DB 2;
.9e-37;
                                                                                                                                                                                                 13;
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                                                                                                                                                                                                                                             Length 455;
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                                                                                                                                                                                                 Gaps
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N;Contains: miniplasminogen C;Species: Sus scrofa domestica (domestic pig) C;Date: 07-Sep-1990 #sequence revision 01-Nov-1996 C;Accession: S03733; S03737; A25834

#text_change 18-Jul-1997

PLPG
plasmin (EC 3.4.21.7) precursor
N;Alternate names: plasminogen

pig (fragment)

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R;Lijnen, n...
J. Biochem.
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                                                                                                                                                                          plasmin (EC 3.4.21.7) precursor - mouse
N;Contains: angiostatin; plasminogen
C;Species: Mus musculus (house mouse)
C;Date: 20-Sep-1991 #sequence revision 01-Nov-1996 #text_change 18-Jun-1999
C;Accession: A38514; S48202; S48203
R;Degen, S.J.F.; Bell, S.M.; Schaefer, L.A.; Elliott, R.W.
Genomics B, 49-61, 1990
A;Title: Characterization of the cDNA coding for mouse plasminogen and localization
A;Reference number: A38514; MUID:91184812; PMID:2081600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          F;1-77/Domain: plasminogen-related protein precursor homology (fragment) <PLPH>
F;1-77/Domain: activation peptide #status predicted <APT>
F;3-560/Product: plasmin chain A #status predicted <ACH>
F;84-162/Domain: kringle homology <KR1>
F;166-243/Domain: kringle homology <KR2>
F;256-333/Domain: kringle homology <KR3>
F;358-435/Domain: kringle homology <KR4>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        F;561-790/Product: plasmin chain B #status experimental <BCH>
F;561-783/Domain: trypsin homology <TRY>
F;30-54,34-42,84-162,105-145,133-157,166-243,169-297,187-226,215-238,256-333,277-316,305
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Eur. J. Biochem. 149, 279-285, 1985
A;Title: Determination of the complete amino-acid sequence of porcine miniplasminogen.
A;Reference number: A25834; MUID:85203907; PMID:3846533
A;Accession: A25834
                   A;Cross-references: GB:J04766; NID:g200402; PIDN:AAA50168.1; PID:g200403 R;Lijnen, H.R.; van Hoef, B.; Beelen, V.; Collen, D. Eur. J. Biochem. 224, 863-871, 1994
                                                                                                                            A; Molecule type: mRNA
                                                                                                                                                         A; Accession: A38514
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                                                                                                   A; Residues: 1-812 < DEG>
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ur. J. Biochem. 114, 465-470, 1981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Residues: 1-560 <SCH>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 68;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EDCMFGNGKRYRGKRATTVAGVPCQEWAAQEPHRHSIFTPETNPRAGLEKNYCRNPDGDD 518
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
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Pred. No. 3
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C;Species: Bos primigenius taurus (cattle)
C;Date: 30-Sep-1987 #sequence_revision 28-Apr-1995 #text_change
C;Accession: S45046; A25835, I45961; S03736
R;Berglund, L.; Andersen, M.D.; Petersen, T.E.
submitted to the EMBL Data Library, May 1994
A;Description: Cloning_and_characterizatin of the bovine plasmin
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F;20-96/Domain: activation peptide #status predicted <APT>
F;79-466/Product: angiostatin #status predicted <AST>
F;97-581,582-812/Product: plasmin #status predicted <MAT>
F;97-581/Domain: chain A #status predicted <ACH>
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C; Comment: Stromelysin 1 (see PIR: KCMSS1) acts on plasminogen to produce angiostatin. Tog
A; Experimental source: liver A; Note: it is uncertain whether Met-1 or Met-8 is the initiator R; Schaller, J.; Moser, P.W.; Dannegger-Muller, G.A.K.; Rosselet,
                                                                                                                                                                                                                                                                                                                                                                                                                                   A; Description: Cloning and A; Reference number: S45046
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    plasmin (EC 3.4.21.7) precursor - bovine N;Alternate names: plasminogen
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F;582-812/Domain: chain B #Etatus predicted <BCH>
F;582-805/Domain: trypsin homology <TRY:
F;582-805/Domain: trypsin homology <TRY:
F;49-73,53-61,103-181,124-164,152-176,185-262,188-316,206-245,234-257,275-352,296-335,324
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A; Molecule type: pro
A; Residues: 20-25 <
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                                                                                                                                                                                                                                                            A; Molecule type: mRNA
A; Residues: 1-812 <BER>
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Best Local :
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79.1%;
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Pred. No. 6.5e-36;
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S.J.; Kampfer,

U.; Rickl

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Eur. J. Blochem. 114, 465-470, 1981

A;Title: Comparison of the primary structure of the N-terminal CNBr fragments of human, A;Ritle: Comparison of the primary structure of the N-terminal CNBr fragments of human, A;Ritle: Comparison of the primary structure of the N-terminal CNBr fragments of human, A;Resterence number: S03736

A;Accession: Accession: Accessio
                               plasmin (EC 3.4.21.7) precursor - western European hedgehog (Species: Erinaceus europaeus (western European hedgehog) C;Species: 21-Feb-1997 #sequence_revision 21-Feb-1997 #text_change C;Accession: 146260 R;Lawn, R.M.; Boonmark, N.W.; Schwartz, K.; Lindahl, G.E.; Wade, J. Biol. Chem. 270, 24004-24009, 1995 A;Title: The recurring evolution of Lp(a): Insights from cloning A;Accession: 146259; MUID:96025778; PMID:7592597 A;Accession: 146260 A;Status: preliminary; translated from GB/EMBL/DDBJ
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A;Accession: I45961
A;Accession: I45961
A;Status: translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Molecule type: mRNA
A;Residues: 706-743,'R',745-812 <MAL>
A;Residues: 706-743,'R',745-812 <MAL>
A;Residues: GB:K02935; NID:g163551; PIDN:AAA30714.1; PID:g163552
A;Cross-references: GB:K02935; NID:g163551; PIDN:AAA30714.1; Lergier, W', Brunisholz, R.A.; Lerch, P.G.; Schaller, J.; Rickli, E.E.; Lergier, W', Burnisholz, R.A.; Lerch, P.G.; Schaller, J.; Rickli, E.E.; Lergier, W', Burnisholz, R.A.; Lerch, P.G.; Schaller, J.; Rickli, E.E.; Lergier, W', Burnisholz, R.A.; Lerch, P.G.; Schaller, J.; Rickli, E.E.; Lergier, W', Burnisholz, R.A.; Lerch, P.G.; Schaller, J.; Rickli, E.E.; Lergier, W', Burnisholz, R.A.; Lerch, P.G.; Schaller, J.; Rickli, E.E.; Lergier, W', Burnisholz, R.A.; Lerch, P.G.; Schaller, J.; Rickli, E.E.; Lergier, W', Burnisholz, R.A.; Lerch, P.G.; Schaller, J.; Rickli, E.E.; Lergier, W', Burnisholz, R.A.; Lerch, P.G.; Schaller, J.; Rickli, E.E.; Lergier, W', Burnisholz, R.A.; Lerch, P.G.; Schaller, J.; Rickli, E.E.; Lergier, W', Burnisholz, R.A.; Lerch, P.G.; Schaller, J.; Rickli, E.E.; Lergier, W', Burnisholz, R.A.; Lerch, P.G.; Schaller, J.; Rickli, R.A.; Lerch, R.A.; Lerch, P.G.; Schaller, J.; Rickli, R.A.; Lerch, R.A.; 
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A;Molecule type: protein
A;Residues: 27-334, 'D', 336-515, 'H', 517-554, 'L', 556-812
R;Malinowski, D.P.; Sadler, J.E.; Davie, E.W.
Biochemistry 23, 4243-4250, 1984
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Best Local S
Matches 67
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               315/Binding site: carbohydrate (Asn) (covalent) #status experimental 365/Binding site: carbohydrate (Ser) (covalent) #status experimental 624,667,762/Active site: His, Asp, Ser #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                #status predicted
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          67;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EADCMIGTGKSYRGKKATTVAGVPCQEWAAQEPHQHSIFTPETNPQSGLERNYCRNPDGD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EQDCMFGNGKGYRGKKATTVTGTPCQEWAAQEPHRHSTFIPGTNKWAGLEKNYCRNPDGD
     mRNA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   79.9%;
77.9%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 406; DB 1;
Pred. No. 6.5e-36;
5; Mismatches 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       98
                                                                                                                                           Insights from cloning PMID:7592597
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DB 1; Length 812
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                                                                                                                                                                                                                                                                                                                                                                                                         16-Jul-1999
                                                                                                                                                                                                    of.
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A;Title: Molecular cloning of rat macrophage-stimulating A;Accession: JC5061; MUID:97011126; PMID:8858136 A;Accession: JC5061
A;Molecule type: mRNA A;Residues: J-16 COHS> A;Cross-reference: COHS>
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RESULT JC5061

R;Ohshiro, K.; Iwama, A.; Matsuno, K.; Ezaki, T.; Sakamoto, Biochem. Biophys. Res. Commun. 227, 273-280, 1996

protein

and its involvement

ij

o :

Hamaguchi, I.;

Takasu, N

PIDN: CAA64473.1;

PID:g1669719

macrophage-stimulating protein 1 precursor - rat
C;Species: Rattus norvegicus (Norway rat)
C;Date: 31-Jan-1997 #sequence_revision 31-Jan-1997 #text_change 16-Jun-2000
C;Accession: JC5061

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plasmin (BC 3.4.21.7) precursor - rat (fragment)
C;Species: Rattus norvegicus (Norway rat)
C;Species: 28-Feb-1992 #sequence_revision 17-Apr-1993 #text_change 16-Jul-1999
C;Accession: A40522
C;Accession: A40522
R;Kanalas, J.J.; Makker, S.P.
J. Biol. Chem. 266, 10825-10829, 1991
A;Title: Identification of the rat Heymann nephritis autoantigen (GP330) as a receptor si A;Reference number: A40522; MUID:91250378; PMID:1645711
A;Accession: A40522
A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-169 <KAN>
A;Cross-references: GB.M62832; NID:9206215; PIDN:AAA41884.1; PID:954488
A;Oross-references: GB.M62832; NID:9206215; PIDN:AAA41884.1; PID:9554488
A;Note: the authors translated the codon TCT for residue 76 as Ala
C;Superfamily: plasmin; kringle homology; plasminogen-related protein precursor homology:
C;Keywords: fibrinolysis; glycoprotein; hydrolase; Kringle; serine proteinase
F;34-112/Domain: kringle homology <KRG>
F;34-112/Domain: kringle bomology <KRG>
F;34-112,55-95,83-107/Disulfide bonds: #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A;Residues: 1-810 <LAW>
A;Cross-references: EMBL:U33171; NID:g1046360; PID:g1046361
C;Superfamily: plasmin; kringle homology; plasminogen-related
C;Keywords: hydrolase; serine proteinase
F;1-96/Domain: plasminogen-related protein precursor homology
F;103-181/Domain: kringle homology <KR1>
F;185-262/Domain: kringle homology <KR2>
F;275-352/Domain: kringle homology <KR3>
F;379-456/Domain: kringle homology <KR3>
F;379-456/Domain: kringle homology <KR3>
F;379-456/Domain: kringle homology <KR3>
F;382-803/Domain: kringle homology <KR5>
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Best Local S
Matches 66
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Best Local S
Matches 41
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                                             62 NGPWCYTMNPRKLFDYCDIPLCASS
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                                                                                                                                  ODCMFGNGKGYRGKKATTVTGTPCQEWAAQEPHRHSTFIPGTNKWAGLEKNYCRNPDGDI
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RGPWCFTTDPSVRWEYCNLKRCSET
                                                                                          QECYQGNGKSYRGTSSTTNTGKKCQSWVSMTPHSHSK-TPANFPDSGLEMNYCRNPDNDQ 90
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                                                                                                                                                                                      Conservative
                                                                                                                                                                                                       47.9%; Score 243.5; DB 2; 48.2%; Pred. No. 4.9e-19;
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77.6%;
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Pred. No. 5.7e-34;
3; Mismatches 16
                                                                                                                                                                                    Mismatches
       115
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                                                                                                                                                                                      31;
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A; Molecule type: protein
A; Residues: 1-123 < SCH>
C; Superfamily: plasmin; kr
C; Keywordds: hydrolase; ser
F; 41-118/Domain: kringle h
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C;Species: Capra aeg
C;Date: 28-Oct-1994
C;Accession: C61545
R;Schaller, J; Rick
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               R;Schaller, J.; Rickli, E.E.
Enzyme 40, 63-69, 1988
A;Title: Structural aspects of the plasminogen of various
A;Reference number: A61545; MUID:89005015; PMID:3168975
A;Accession: C61545
A;Status: preliminary
A;Status: preliminary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           C;Complex: disulfide-bonded heterodimer of chains derived from the same precursor C;Superfamily: hepatocyte growth factor; kringle homology; trypsin homology C;Keywords: duplication; glycoprotein; growth factor; kringle F;131/Domain: signal sequence #status predicted <SIG> F;32-488,489-716/Product: macrophage-stimulating protein 1 #status predicted <ACH> F;32-488/Domain: macrophage-stimulating protein 1 alpha chain #status predicted <ACH> F;110-186/Domain: kringle homology <KRI1> F;191-268/Domain: kringle homology <KRI2> F;192-370/Domain: kringle homology <KRI3> F;379-457/Domain: kringle homology <KRI3>
                                                                                                                                                          macrophage-stimulating protein 1 precursor - human (;Species: Homo sapiens (man) (C;Species: Homo sapiens (man) (C;Date: 03-May-1994 #sequence revision 14-Nov-1997 #text_change 18-Jun-1999 (;Accession: A40331; B40331; A47135; A61395 (R;Han, S.; Stuart, L.A.; Degen, S.J.F.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         F;489-716/Domain: mac
F;489-709/Domain: try
F;72,305,620/Binding
                                                               A;Title: Characterization of the DNF15S2 locus on human chromosome A;Reference number: A40331; MUID:92002016; PMID:1655021 A;Accession: A40331
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                        A; Molecule type: DNA
A; Residues: 1-711 <HA1>
                                                                                                                                        R;Han, S.; Stuart, L.A.; De
Biochemistry 30, 9768-9780,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      plasmin (EC 3.4.21.7) precursor -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               'Alternate names: plasminogen
'Species: Capra aegagrus hircus (domestic goat)
'Date: 28-Oct-1994 #sequence_revision 28-Oct-1994
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Best Local
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Keywords: hydrolase; serine proteinase
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NGPWCYTMNPRKLFDYCDIPLC 83
                                                                                                                                                                                                                                                                                                                                                                                                                          NGPWCYTMNPRKLFDYCDIPLCA 84
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trypsin homology <TRY>
ing site: carbohydrate (Asn) (covalent) #status predicted
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 242; DB 2;
Pred. No. 5.2e-19;
2; Mismatches 27
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Pred. No. 2.1e-18;
4; Mismatches 27;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   6校24~
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   27;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 123
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                                                                                                                  identification
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                         96
                                                                                                                  얁
A;Molecule type: mRNA
A;Residues: 1-18,'P',20-716 <DEG2>
A;Cross-references: GB:M74181; NID:g193833; PIDN:AAA50167.1;
C;Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       문
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                                                                                          A; Accession:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A; Accession: A61395
                                                                                                                                                                                       A; Accession: A40332
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Matches
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                                                                                            B40332
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macrophage-stimulating protein 1 precursor - mouse
N;Alternate names: hepatocyte growth factor-like protein
C;Species: Mus musculus (house mouse)
C;Date: 17-Jul-1992 #sequence_revision 17-Jul-1992 #text_change 18-Jun-1999
C;Accession: A40332; B40332
R;Degen, S.J.F.; Stuart, L.A.; Han, S.; Jamison, C.S.
Biochemistry 30, 9781-9791, 1991
A;Title: Characterization of the mouse cDNA and gene coding for a hepatocyto
A;Reference number: A40332; MUID:92002017; PMID:1832957
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           F;110-186/Domain: kringle homology <KR1>
F;191-268/Domain: kringle homology <KR2>
F;293-361/Domain: kringle homology <KR3>
F;270-448/Domain: kringle homology <KR4>
F;370-448/Domain: kringle homology <KR4>
F;484-701/Domain: beta chain #status predicted <BCH>
F;484-701/Domain: trypsin homology <TRY>
F;484-704/Domain: trypsin homology <TRY>
F;484-704/Domain: trypsin homology <TRY>
F;464-704/Domain: trypsin homology <TRY>
F;467-78,60-66,110-186,131-169,157-181,191-268,212-251,240-263,283-361,304-343,332-355,37(
F;72,296,615/Binding site: carbohydrate (Asn) (covalent) #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          F;1-18/Domain: signal sequence #status predicted <SIG>
F;19-483,484-711/Product: macrophage-stimulating protein 1 #status predicted <MAT>
F;19-483/Domain: alpha chain #status predicted <ACH>
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A;Residues: 1-711 <HA2>
A;Cross-references: GB:M74178; NID:g183976; PIDN:AAA50165.1; PID:g183977
A;Cross-references: GB:M74178; NiD:g183976; A.; Leonard, E.J.
J. Biol. Chem. 268, 15461-15468, 1993
J. Biol. Chem. 268, 15461-15468, 1993
A;Title: Cloning, sequencing, and expression of human macrophage stimulating protein A;Reference number: A47136; MUID:93340141; PMID:8393443
A;Accession: A47136
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A; Molecule type: mRNA
A; Residues: 1-711 <HA:
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A, Residues: 230-247,288-291,'E',293-295,'X',297-301,'X',303,'E',305,'EX',308-310,326-331,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A;Residues: 1-12,'C',14-622,'F',624-711 <YOS>
A;Cross-references: GB:L11924; NID:g398037; PIDN:AAA59872.1; PID:g398038
A;Cross-references: GB:L11924; NID:g398037; PIDN:AAA59872.1; PID:g398038
A;Note: authors translated the codon TTT for residue 623 as Leu; parts of this sequence vA;Note: authors translated the codon TTT for residue 623 as Leu; parts of this sequence vA;Note: authors translated, S.J. Tanaka, S.; Appella, B.; Leonard, B.J. J. Exp. Med. 173, 1227-1234, 1991
                                            A; Molecule type: DNA
A; Residues: 1-716 < DEG>
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A;Cross-references: GDB:128833; OMIM:142408
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    A; Cross-references: GB:M74180;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          17.5%;
Similarity 51.8%;
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NID:g193831; PIDN:AAA50166.1;
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Pred. No. 3.4e-18;
1; Mismatches 28;
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         PID:g193832
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PID:g193834

facto

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applipoprotein(a) - western European hedgehog (fragment)
C;Species: Erinaceus europaeus (western European hedgehog)
C;Date: 15-Oct-1999 #sequence_revision 15-Oct-1999 #text_change 07-Dec-1999
C;Accession: T18518
R;Lawn, R.M.; Boonmark, N.W.; Schwartz, K.; Lindahl, G.E.; Wade, D.P.; Byrne, C.D.; Fong
J. Biol. Chem. 270, 24004-24009, 1995
A;Title: The recurring evolution of Lp(a): Insights from cloning of hedgehog apolipoprot
A;Reference number: I46259; MUID:96025778; PMID:7592597
A;Accession: T18518
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 1-2869 <LAW>
A;Cross-references: EMBL:U33170; NID:g1046358; PID:g1046359; PIDN:AAC48522.1
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F;191-268/Domain: kringle homology <KR2>
F;292-370/Domain: kringle homology <KR3>
F;379-457/Domain: kringle homology <KR4>
F;484-711/Domain: beta chain #status experimental <BCH>
F;489-709/Domain: trypsin homology <TRY>
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Search completed: January 12, 2004, 17:26:24
Job time : 11.6391 secs
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Best Local S
Matches 43
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Best Local S
Matches 40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Experimental source: liver comment: The lipoprotein \operatorname{Lp}(a), a major inherited risk factor for atherosclerosis, consoment:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 V Match 47.1%; Score 239.5; DB 1; Length 716; Local Similarity 48.8%; Pred. No. 5.6e-18; nes 40; Conservative 14; Mismatches 27; Indels 1
                                                                                                                                           2648 -APWCYTTNSAVRWEYCSIPTCESS 2671
                                                                                                                                                                                                                                                                              2589 EQCLEGNGENYOGNMAITVSGOPCOGWRKOTPHRHE-YTPENYPSKNLFGNYCRNPDGEI 2647
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             436 HGPWCYTLDPDILFDYCALQRC 457
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     377 EGCYHGSGEQYRGSVSKTRKGVQCQHWSSETPHK-PQFTPTSAPQAGLEANFCRNPDGDS 435
                                                                                                                                                                                                                                                                                                                                                                                                           tch 47.0%; al Similarity 50.6%; 43; Conservative
                                                                                                                                                                                                           62 NGPWCYTMNPRKLFDYCDIPLCASS 86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 62 NGPWCYTMNPRKLFDYCDIPLC 83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2 QDCMFGNGKGYRGKKATTVTGTPCQEWAAQEPHRHSTFIPGTNKWAGLEKNYCRNPDGDI 61
                                                                                                                                                                                                                                                                                                                                               2 QDCMFGNGKGYRGKKATTVTGTPCQEWAAQEPHRHSTFIPGTNKWAGLEKNYCRNPDGDI
                                                                                                                                                                                                                                                                                                                                                                                                               ; Score 239; DB 2; Length 2869; ; Pred. No. 2.5e-17; 9; Mismatches 31; Indels
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Result
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Maximum DB
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              Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
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R MEROPS; SO1.226; -..

R MEROPS; SO1.226; -..

R Genew; HGNC:6667; LPA.

R MIN; 152200; -..

R GO; GO:0004866; F:endopeptidase inhibitor activity; TAS.

R GO; GO:0008015; P:circulation; TAS.

R GO; GO:0008015; P:pathogenesis; TAS.

R GO; GO:0008015; P:pathogenesis; TAS.

R GO; GO:0008015; P:pathogenesis; TAS.

R InterPro; IPRO01314; Chymotrypsin.

R InterPro; IPRO01314; Ser protease Try.

R InterPro; IPRO01254; Ser protease Try.

R InterPro; IPRO01254; Ser protease Try.

R Pfam; PF00051; Kringle; 38.

R Pfam; PF00051; Kringle; 38.

R PRINTS; PR00018; KRINGLE 1; 38.

R PRINTS; PR00018; KRINGLE 1; 38.

R PROSITE; PS00130; KR; 38.

R PROSITE; PS001314; TRYPSIN_INS; 1.

R PROSITE; PS00135; TRYPSIN_INS; 1.
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PIR; S00657; S00657.
PDB; 1171; 13-JUN-01.
PDB; 1JFN; 28-JUN-02.
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                                                                                                   SIGNAL
                                                                                                              Kringle; Repeat;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              proteolytic fragmentation.
SIMILARITY: BELONGS TO PEPTIDASE FAMILY
SIMILARITY: Contains 38 kringle domains.
                                                                                                                                                                                                                                                                                                                                                                                              S00657; S00657.
1171; 13-JUN-01.
11FN; 28-JUN-02.
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APOLIPOPROTEIN(A).
KRINGLE TYPE IV, 1.
KRINGLE TYPE IV, 2.
KRINGLE TYPE IV, 3.
KRINGLE TYPE IV, 4.
KRINGLE TYPE IV, 5.
KRINGLE TYPE IV, 6.
KRINGLE TYPE IV, 7.
                                                                                                            transport; Plasma; Glycoprotein; Signal; Polymorphism; 3D-structu
                                                                                                               Polymorphism; 3D-structure.
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OC Eukaryota; Metazoa; Chordata; Craniata; vertebrata; Sutereoscomi; OC Mammalia; Eutheria; Primates; Catarrhini; Cercopithecidae; OC Cercopithecinae; Macaca. OX NCBI TaxID=9544; RN [1] - TaxID=9544; RN SEQUENCE FROM N.A. RA Tomlinson J.E., McLean J.W., Lawn R.M.; RT "Rhesus monkey apolipoprotein(a). Sequence, evolution, and sites of synthesis.";	01-CCT-1989 (Rel. 12, Created) 01-CCT-1989 (Rel. 12, Last sequence update) 28-FBB-2003 (Rel. 41, Last annotation update) Plasminogen precursor (EC 3.4.21.7). PLG. Macaca mulatta (Rhesus macaque).	N SI	1 EQDCWFGNGKGYRGKKATTVTGTFCQEW	Query Match 100.0%; Score 508; DB 1; Length 4548; Best Local Similarity 100.0%; Pred. No. 3.2e-48; Matches 86; Conservative 0; Mismatches 0; Indels 0; Gaps	SEQUENCE 4548 AA; 501313 N	ACT SITE 4498 4498 CHARGE KELLAR (VARTANT 4193 4193 W -> R (LOSS (TOTAL CONTROL OF THE CONTROL OF T	ACT_SITE 4412 CHARGE RELAY	DOMAIN 4328 4548 SERINE PROTEASE.	DOMAIN 4113 4226 KRINGLE TYPE IV.	DOMAIN 3885 3998 KRINGLE TYPE IV.	DOMAIN 3665 3770 KRINGLE TYPE IV, 33	DOMAIN 3437 3550 KRINGLE TYPE IV, 31 DOMAIN 3551 3664 KRINGLE TYPE IV, 32	DOMAIN 3209 3322 KRINGLE TYPE IV, 29 DOMAIN 3323 3436 KRINGLE TYPE IV, 30	DOMAIN 2981 3094 KRINGLE TYPE IV, 27 DOMAIN 3095 3208 KRINGLE TYPE IV, 28	FT DOMAIN 2639 2752 KKINGLE TYPE IV, 24. FT DOMAIN 2753 2866 KRINGLE TYPE IV, 25. FT DOMAIN 2867 2880 KRINGLE TYPE IV. 26.	DOMAIN 2411 2524 KRINGLE TYPE IV, 22 DOMAIN 2525 2638 KRINGLE TYPE IV, 23	DOMAIN 2183 2296 KRINGLE TYPE IV, 20 DOMAIN 2297 2410 KRINGLE TYPE IV, 21	DOMAIN 1955 2068 KRINGLE TYPE IV, DOMAIN 2069 2182 KRINGLE TYPE IV,	DOMAIN 1727 1840 KRINGLE TYPE IV, DOMAIN 1841 1954 KRINGLE TYPE IV,	DOMAIN 1499 1612 KRINGLE TYPE IV,	DOMAIN 1271 1384 KRINGLE TYPE IV, DOMAIN 1385 1498 KRINGLE TYPE IV,	DOMAIN 1043 1156 KRINGLE TYPE IV, DOMAIN 1157 1270 KRINGLE TYPE IV,	928 KRINGLE TYPE
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InterPro; IPR001314; Chymotrypsin.
InterPro; IPR003014; PAN.
InterPro; IPR003014; PAN.
InterPro; IPR003609; PAN app.
InterPro; IPR003609; PAN app.
InterPro; IPR003566; Prothrombin.
InterPro; IPR001254; Ser protease Try.
IPEam; PP00024; PAN; 1.
IPEam; PP00024; PAN; 1.
IPEam; PP00029; trypsin; 1.
IPEAM; PP000189; trypsin; 1.
IPEAM; PR00122; CHYMOTRYPSIN.
IPEAM; PR00122; CHYMOTRYPSIN.
IPEAM; PR001305; PROTHROMBIN.
IPEAM; PR001305; PROTHROMBIN.
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IPEAM; SM00130; KR; 4.
SMART; SM00130; KR; 4.
SMART; SM00130; KR; 4.
SMART; SM00213; TRYBSIN SEP; 1.
IPROSITE; PS00021; KRINGLE 2; 5.
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ENZYME REQULATION: CONVERTED INTO PLASMIN BY PLASMINOGEN ENZYME REQULATION: CONVERTED INTO PLASMIN BY PLASMINOGEN ACTIVATORS, BOTH PLASMINOGEN AND ITS ACTIVATOR BEING BOUND TO FIBRIN. ACTIVATED WITH CATALYTIC AMOUNTS OF STREPTOKINASE. MISCELLANEOUS: PLASMIN IS INACTIVATED BY ALPHA-2-ANTIPLASMIN IMBEDIATELY AFTER DISSOCIATION FROM THE CLOT.

MISCELLANEOUS: IN THE PRESENCE OF THE INHIBITOR, THE ACTIVATION INVOLVES ONLY CLEAVAGE AFTER ARG-580, RESULTING IN 2 CHAINS HELD TOGETHER BY 2 DISULFIDE BONDS. WITHOUT THE INHIBITOR, THE ACTIVATION INVOLVES ALSO REMOVAL OF THE ACTIVATION PEPTIDE.

SIMILARITY: BELONGS TO PEPTIDASE FAMILY S1. PLASMINOGEN SUBFAMILY.

SIMILARITY: Contains 5 kringle domains.
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CATALYTIC ACTIVITY: Preferential cleavage: Lys-[-Xaa > Arg-[-Xaa; higher selectivity than trypsin. Converts fibrin into soluble
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                                                                                                                                                                                                                                                 protease; Plasma; Glycoprotein; Fibrinolysis;
; Blood coagulation; Kringle; Zymogen; Repeat;
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 PLASMINOGEN.
PLASMIN HEAVY CHAIN
ACTIVATION PEPTIDE.
PLASMIN SHORT FORM C
PLASMIN LIGHT CHAIN
KRINGLE 1.
KRINGLE 2.
KRINGLE 3.
KRINGLE 4.
KRINGLE 4.
KRINGLE 4.
KRINGLE 5.
SERINE PROTEASE.
CHARGE RELAY SYSTEM
     PROTEASE.
RELAY SYSTEM.
                                                                                                                           SHORT FORM OF CHAIN LIGHT CHAIN B.
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MEDLINE=87162490; PubMed=3030813;
Forsgren M., Raden B., Israelsson
                                                                                                                               SEQUENCE FROM N.A.

SEQUENCE FROM N.A.

MEDLINE=90202879; PubMed=2318848;

Metersen T.E., Martzen M.R., Ichinose A., Davie E.W.;

"Characterization of the gene for human plasminogen, in the fibrinolytic system.";

J. Biol. Chem. 265:6104-6111(1990).
                                                                                                                                                                                                                                                                                                                                                                                          Homo sapiens (Human).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae;
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MEDLINE=85023311; PubMed=6148961; Malinowski D.P., Sadler J.E., Davie E "Characterization of a complementary human and bovine plasminogen."; Biochemistry 23:4243-4250(1984).
[13]
PHOSPHORYLATION SITE
MEDLINE=97345939; Pul
                                                                                                                                     Trexler M., Vali Z., Patthy L.;
"Structure of the omega-aminocarboxylic
plasminogen. Arginine 70 and appartic ac
binding of ligand by kringle 4.";
J. Biol. Chem. 257:7401-7406(1982).
                                                                                                                                                                                                                                                "Studies on the active center of human plasm sequence of a peptide containing the active J. Biol. Chem. 244:3590-3597(1969).
                                                                                                                                                                                                                                                                                                                                              Robbins K.C., Bernabe P., Arzadon L., Summaria L., "The primary structure of human plasminogen. II. The histidine of human plasmin. light (B) chain active center histidine seque J. Biol. Chem. 248:1631-1633(1973).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         "Amino-acid sequence of the cyanogen-bromide fragment in plasminogen that forms the linkage between the plasmin fur. J. Biochem. 58:539-547(1975).
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                                                                                                                                                                                                                                                                                                                                                                                                                                             "Primary structure of the B-chain of human Eur. J. Biochem. 76:129-137(1977).
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} Lett. 213:254-260(1987).
                               Z., Patthy L.; fibrin-binding site of human plasminogen. Arginines 32 essential for fibrin affinity of the kringle 1 domain.", siol. Chem. 259:13690-13694(1984).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ENCE OF 95-580; 581-626; 657-700 AND 732-810.

rup-Jensen L., Claeys H., Zajdel M., Petersen T.E., Magnussor Davidson J.F., Rowan R.M., Samama M.M., Desnoyers P.C. (eds. ress in chemical fibrinolysis and thrombolysis, pp.3:191-209, n Press, New York (1978).
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lasminogen and their interaction with the NH2-terminal
peptide as studied by affinity chromatography.";
ochem. 50:489-494(1975).
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O'Reilly M.S., Holmgren L., Shing Y., Chen C., Rosenthal R.A., Moses M., Lane W.S., Cao Y., Sage E.H., Folkman J.; "Angiostatin: a novel angiogenesis inhibitor that mediates the suppression of metastases by a Lewis lung carcinoma."; Cell 79:315-328(1994).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MEDLINE-88185329; PubMed-3356193; Marti T., Schmid K Marti T., Schaller J., Rickli E.E., Schmid K Gerwig G.J., van Halbeek H., Vliegenthart J. "The N- and O-linked carbohydrate chains of plasminogen. Species specificity in relation fucosylation patterns."
Eur. J. Biochem. 173:57-63(1988).
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"Serine-578 is a major
plasminogen.";
                                                                                                          "Crystal structures of the recombinant kringle 1 domain of huma plasminogen in complexes with the ligands epsilon-aminocaproic and trans-4-(aminomethyl)cyclohexane-1-carboxylic Acid."; Biochemistry 35:2567-2576(1996).
                                                                                                                                                                                                           Stec B., Yamano A., Whitlow M., reerer ....., Stec B., Yamano A., Whitlow M., reerer ....., "Structure of human plasminogen kringle 4 at 1.68 "Structure of human plasminogen kringle 4 at 1.68 A possible structural role of disordered residues. A possible structural role of disordered residues. A possible structural role of disordered residues.
                                                                                                                                                                                                                                                                                                                                                                                                              MEDLINE=92031502; PubMed=1657148; Mulichak A.M., Tulinsky A., Ravichandran "Crystal and molecular structure of humar refined at 1.9-A resolution.";
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                                       Chang Y., Mochalkin Castellino F.J.;
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"The refined structure of the epsilon-aminocaproic
human plasminogen kringle 4.";
Biochemistry 30:10589-10594(1991).
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J. Biol. Chem. 272:7408-7411(1997).
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MEDLINE=97207306; PubMed=9054441;
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Structure and ligand binding d
domain of human plasminogen."
iochemistry 37:3258-3271(1998)
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3., Yamano A., Whitlow M., Teeter
                                                                                                                                                                                                                                                                                                                                                                         CRYSTALLOGRAPHY (2.25 ANGSTROMS)
                                                                                                                                                                                          CRYSTALLOGRAPHY (2.1 ANGSTROMS)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Res. 57:1329-1334(1997).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             a novel O-linked sialylated
                                                                                                                                                                  Vanderhoff-Hanaver P., Castellino F.J.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         human angiostatin protein
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PubMed=9102221;
"M.S., Liang H.,
                                                                                                                                                                                                                                                                                                                                                        PubMed=1657149;
                                                                  PubMed=9521645;
                                                                                                                                                                               PubMed=8611560;
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                                                                                 (1.66 ANGSTROMS)
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RN SEQUEN
RC TISSUE
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Matches 70
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MEDLINE=90175323; PubMed=2626424;
Schaller J., Straub C., Kaempfer U., Rickli E.E.;
Protein Seq. Data Anal. 2:445-450(1989).

-i- FUNCTION: PLASMIN DISSOLVES THE FIBRIN OF BLOOD CLOTS AND ACTS
A PROTEDLYTIC FACTOR IN A VARIETY OF OTHER PROCESSES INCLUDING EMBRYONIC DEVELOPMENT, TISSUE REMODELING, TUMOR INVASION,
AND INFLAMMATION; IN OVULATION IT WEAKERS THE WALLS OF THE GRAAPIAN FOLLICLE. IT ACTIVATES THE UROKINASE-TYPE PLASMINGGEN ACTIVATOR, COLLAGENASES AND SEVERAL COMPLEMENT ZYMOCENS, SUCH ASC 1AND C5. IT CLEAVES FIBRIN, FIBRONECTIN, THROMBOSPONDIN,
                                                                                                                                                                                                                                                                                                                              P80009;
01-NOV-1991
01-NOV-1991
16-OCT-2001
                                                                                                                                                                                                                                 Canis familiaris (Dog).
Canis familiaris (Dog).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia: Rutheria; Carnivora; Fissipedia; Canidae; Canis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Rejante M.R., Llinas M.;
"Solution structure of the epsilon-aminohexanoic human plasminogen kringle l.";
Eur. J. Biochem. 221:939-949(1994).
                                                                                                                                                                                                     SEQUENCE
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MEDLINE=90219023; PubMed=215
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       "Recombinant gene expression and 1H NMR characteristics of the kringle (2 + 3) supermodule: spectroscopic/functional individuality of plasminogen kringle domains."; Biochemistry 35:2357-2364(1996).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STRUCTURE BY NMR OF 183-354.
MEDLINE=96194156; PubMed=8652577;
Soehndel S., Hu C.-K., Marti D., /
Rickli E.B.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STRUCTURE BY NMR OF 96-184.
MEDLINE=94237158; PubMed=8181476;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        "Solution structure of the kringle 4 domain from 11 nuclear magnetic resonance spectroscopy and J. Mol. Biol. 212:541-552(1990).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            INGPWCYTMNPRKLFDYCDIPLCAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EQDCMFGNGKGYRGKKATTVTGTPCQEWAAQEPHRHSTFIPGTNKWAGLEKNYCRNPDGD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             VGGPWCYTTNPRKLYDYCDVPQCAA
                                                                                                                                                                                                                                                                                                           (Rel. 20, Created)
(Rel. 20, Last sequence update)
(Rel. 40, Last annotation updat
(EC 3.4.21.7) (Fragment).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         84.6%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 430; DB 1;
Pred. No. 2.7e-40;
7; Mismatches 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Affolter M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            85
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InterPro; IPR001001; Kringle.
InterPro; IPR003966; Prothrombin.
InterPro; IPR003966; Prothrombin.
InterPro; IPR001254; Ser protease_Try.
Pfam; PF00051; kringle; I.
Pfam; PF00089; trypsin; I.
Pfam; PF00089; trypsin; I.
PRINTS; PR001722; CHYMOTRYPSIN.
PRINTS; PR00189; KRINGLE.
PRINTS; PR01505; PROTHROMBIN.
PRODOM; PP000395; Kringle; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SMART; SM00130; KR; 1.

SMART; SM00020; Tryp SPc; 1.

PROSITE; PS00021; KRINGLE 2; 1.

PROSITE; PS50070; KRINGLE 2; 1.

PROSITE; PS50240; TRYPSIN_DOM; 1.

PROSITE; PS500134; TRYPSIN_HIS; 1.

PROSITE; PS00134; TRYPSIN_SER; 1.

PROSITE; PS00135; TRYPSIN_SER; 1.

Hydrolase; Serine protease; Plasma; 1.

Hydrolase; Serine protease; Plasma; 1.
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                                                                                                                                      госат
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MISCELLANEOUS: PLASMIN IS INACTIVATED BY ALPHA-2-ANTIPLASMIN IMMEDIATELY AFTER DISSOCIATION FROM THE CLOT.
SIMILARITY: BELONGS TO PEPTIDASE FAMILY S1. PLASMINOGEN SUBF.
SIMILARITY: Contains at least 1 kringle domain.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         products.

ENZYME REGULATION: CONVERTED INTO PLASMIN BY PLASMINOGEN ENZYME REGULATION: CONVERTED INTO PLASMIN BY PLASMINOGEN ACTIVATOR BEING BOUND FIBRIN. ACTIVATED WITH UROKINASE AND HIGH CONCENTRATIONS OF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CATALYTIC ACTIVITY: Preferential cleavage: Ly8-|-Xaa > Arg-|-Xaa; higher selectivity than trypsin. Converts fibrin into soluble
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LAMININ AND VON WILLEBRAND FACTOR.
63
                            63
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                                                                                                                                      Similarity
              GPWCYTMNPRKLFDYCDIPLCASS 86
                                                                              DCMFGNGKGYRGKKATTVTGTPCQEWAAQEPHRHSTFIPGTNKWAGLEKNYCRNPDGDIN
                                                           DCMFGNGKGYRGKKATTVMGIPCQEWAAQEPHRHSIFTPETNPQAGLEKNYCRNPDGDVN
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                                                                                                                      Conservative
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333
333
83
66
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84.5%;
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                                                                                                                                                                                          INTERCHAIN (BY SIMILARITY).

INTERCHAIN (BY SIMILARITY).

BY SIMILARITY.

BY SIMILARITY.

BY SIMILARITY.

BY SIMILARITY.

BY SIMILARITY.

CHARGE RELAY SYSTEM (BY SIMILARITY).

STREPTOKINASE-BINDING SITE (PROBABLE).

STREPTOKINASE-BINDING SITE (PROBABLE).
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BY SIMILARITY.
BY SIMILARITY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PLASMIN
PLASMIN
KRINGLE
                                                                                                                                    Score 425; DB 1;
Pred. No. 3.8e-40;
                                                                                                                                                                                                                                                                                                                                                                                                                                                           SERINE PROTEASE
                                                                                                                                                                                  C8C0271B6C6AC8D4 CRC64;
                                                                                                                      Mismatches
 98
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LIGHT CHAIN B.
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RESULT 5
PLMN_SHEEP
ID PLMN_SHEEP

STANDARD;

PRT;

343 AA

P81286; 15-DEC-1998 15-DEC-1998 28-FEB-2003

Plasminogen

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Best
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SMART; SM00020; Tryp_SPc; 1.

PROSITE; PS00021; KRINGLE 1; 1.

PROSITE; PS50070; KRINGLE 2; 1.

PROSITE; PS50240; TRYPSIN DOM; 1.

PROSITE; PS00134; TRYPSIN SER; 1.

PROSITE; PS00135; TRYPSIN SER; 1.
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Bovidae; Caprinae; Ovis.
NCBI_TaxID=9940;
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DOMAIN
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PRINTS; PR00018; KRINGLE.
PRINTS; PR01505; PROTHROMBIN.
PRODOM; PD000395; Kringle; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    IMMEDIATELY AFTER DISSOCIATION FROM THE CLOT.
-I- SIMILARITY: BELONGS TO PEPTIDASE FAMILY S1. PLASMINOGEN SUBFAMILY.
-I- SIMILARITY: Contains at least 2 kringle domains.
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I PLASMIN BY PLASMINOGEN
ACTIVATORS, BOTH PLASMINOGEN AND ITS ACTIVATOR BEING BOUL
ACTIVATORS, BOTH PLASMINOGEN AND ITS ACTIVATOR BEING BOUL
FIBRIN. CANNOT BE ACTIVATED WITH STREPTOKINASE.

I MISCELLANEOUS: PLASMIN IS INACTIVATED BY ALPHA-2-ANTIPLA:
IMMEDIATELY AFTER DISSOCIATION FROM THE CLOT.

IMMEDIATELY AFTER DISSOCIATION FROM THE CLOT.
                                                                                                                                                                                 NON TER
                                                                                                                                                                                                                                                                                                                                                                                           Pfam; PF00051; kringle;
Pfam; PF00089; trypsin;
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HSSP; P00747; 5HPG.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Schaller J., Straub C., Kampfer U., Rickli E.E.;
"Complete amino acid sequence of ovine miniplasminogen.";
Protein Seg. Date Anal. 5:21-25(1992).
-I- FUNCTION: PLASMIN DISSOLVES THE FIBRIN OF BLOOD CLOTS
A PROTEOLYTIC FACTOR IN A VARIETY OF OTHER PROCESSES I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MEDLINE=93149995; PubMed=1492092;
Schaller J., Straub C., Kampfer U.,
                                                                                                                                                                                                                                                                                                                                                                                                                       InterPro; IPR003966; InterPro; IPR001254;
                                                                                                                                                                                                                                                                                                                                                                                                                                                   InterPro; IPR001314; Chymotrypsin.
InterPro; IPR000001; Kringle.
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                                                                                                                                          DOMAIN
                                                                                                                                                                                                           Tissue
                                                                                                                                                                                                                          Hydrolase;
           Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AS C1 AND C5. IT CLEAVES FIBRIN, FIBRONECTIN, THROMBOSPONDIN, LAMININ AND VON WILLEBRAND FACTOR.
CATALYTIC ACTIVITY: Preferential Cleavage: Lys-|-xaa > Arg-|-Xaa; higher selectivity than trypsin. Converts fibrin into soluble
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EMBRYONIC DEVELOPMENT, TISSUE REMODELING, THOOR INVASION, AND INFLAMMATION; IN OVULATION IT WEAKENS THE WALLS OF THE GRAAFIAN FOLLICLE IT ACTIVATES THE UNCKINASE TYPE PLASMINGGEN ACTIVATOR, COLLAGENASES AND SEVERAL COMPLEMENT ZYMOGENS, SUCH AS C1 AND C5. IT CLEAVES FIBRIN, FIBRONECTIN, THROMBOSPONDIN,
                                                                                                                                                                                                           remodeling;
           Similarity
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181
224
319
343
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (Rel. 37, Created)
(Rel. 37, Last sequence update)
(Rel. 41, Last annotation update)
(EC 3.4.21.7) (Fragment).
Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          5HPG.
                                                                                                                                                                                                                                                                                                                                                                                trypsin; 1.
2; CHYMOTRYPSIN.
                                                     ጅ
                                                                                                                                                                                                                        protease; Plasma;
                                                                                                                                                     140
>343
17
                                                                                              120
341
181
224
                                                                                                                                                                                                           Blood coagulation;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Chordata; Craniata; Vertebrata; Euteleostomi; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
           81.9%;
82.6%;
                                                       37662
                                                                                                                                                                                                                                                                                                                                                                                                                    Ser_protease_Try.
                                                                                                                                                                                                                                                                                                                                                                                                                                    Prothrombin.
                                                       ¥.
                                                                                                                                    HEAVY CHAIN I
LIGHT CHAIN I
KRINGLE 4.
KRINGLE 5.
           Score 416; DB 1; Length 343; Pred. No. 4e-39;
                                                                                SERINE
CHARGE
CHARGE
CHARGE
                                                       8DF6EBA92D596EE0
                                                                                E RELAY SYSTEM.
E RELAY SYSTEM.
                                                                                                                           PROTEASE
                                                                                                                                                                                                                          Glycoprotein; Fibrinolysis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Rickli E
                                                                                                                                                                                                           Kringle; Zymogen; Repeat
                                                                                                                                                                   > >
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               BY ALPHA-2-ANTIPLASMIN
14; Indels
                                                       CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                INCLUDING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          BOUND TO
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RESULT 6

PLAN H

PROVIDE

ID PLAN H

PROVID

PROVID

PROVID

PROVID

RP SEQUEN

RN (1)

RN (1)

RN SCHALLIN

RA SCHALLIN

ROCC -1- FOR AN

CCC -1- FOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δ
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 á
                                                                                                                                                     SMART; SM00130; KR; 1.

SMART; SM00020; Tryp SPC; 1.

PROSITE; PS00021; KRINGLE 1; 1.

PROSITE; PS00070; KRINGLE 2; 1.

PROSITE; PS50070; KRINGLE 2; 1.

PROSITE; PS50134; TRYPSIN DOM; 1.

PROSITE; PS00134; TRYPSIN SER; 1.

PROSITE; PS00135; TRYPSIN SER; 1.

Hydrolase; Serine procease; Plasma;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MEDIJINE-92052077; PubMed=1946332;

Schaller J., Straub C., Kaempfer U., Rickli E.E.;

Protein Seq. Data Anal. 4:69-74 (1991)

-1- FUNCTION: PLASMIN DISSOLVES THE FIBRIO OF BLOOD CLOTS AND ACTS

A PROTEOLYTIC FACTOR IN A VARIETY OF OTHER PROCESSES INCLUDING EMBRYONIC DEVELOPMENT, TISSUE REMODELING, TUMOR INVASION,

EMBRYONIC DEVELOPMENT, TISSUE REMODELING, TUMOR INVASION,

EMBRYONIC DEVELOPMENT, TISSUE REMODELING, TUMOR INVASION,

AND SUPPLAMMATION; IN OVULATION IT WEAKENS THE WALLS OF THE GRAAFIAN FOLLICLE. IT ACTIVATES THE UROKINASE-TYPE PLASMINOGEN ACTIVATOR, COLLAGENASES AND SEVERAL COMPLEMENT ZYMOGENS, SUCH ACTIVATOR, COLLAGENASES AND SEVERAL COMPLEMENT ZYMOGENS, SUCH AS C1 AND C5. IT CLEAVES FIBERIN, FIBRONECTIN, THROMBOSPONDIN, AS C1 AND C5. IT CLEAVES FIBERIN, FIBRONECTIN, THROMBOSPONDIN,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          01-NOV-1991
01-NOV-1991
16-OCT-2001
                          Tissue 1
NON TER
CHAIN
CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Pfam;
Pfam;
                                                                                                                                                                                                                                                                                                                                                                                                                 Pfam; PF00089; trypsin; 1.
PRINTS; PR007722; CHYMOTRYPSIN.
PRINTS; PR00018; KRINGLE.
PRINTS; PR01505; PROTHROMBIN.
ProDom; PD000395; Kringle; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            InterPro; IPR001314; Chymotrypsin.
InterPro; IPR009001; Kringle
InterPro; IPR00966; Prothrombin.
InterPro; IPR001254; Ser_protease_Try.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PIR; A61545; A61545.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Plasminogen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       P80010;
      DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MEROPS; S01.233;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FISSUE=Plasma;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Equus caballus (Horse)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CBI_TaxID=9796;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRODUCTS.

ENZYME REGULATION: CONVERTED INTO PLASMIN BY PLASMINOGEN
ACTIVATORS, BOTH PLASMINOGEN AND ITS ACTIVATOR BEING BOUND TO
ACTIVATORS, HOTH PLASMINOGEN AND ITS ACTIVATOR BEING BOUND TO
FIBRIN ACTIVATED WITH CATALYTIC AMOUNTS OF STREDTOKINASE.
MISCELLANEOUS: PLASMIN IS INACTIVATED BY ALPHA-2-ANTIPLASMIN
IMMEDIATELY AFTER DISSOCIATION FROM THE CLOT.
SIMILARITY: BELONGS TO PEPTIDASE FAMILY S1. PLASMINOGEN SUBFAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SIMILARITY: Contains at least 1 kringle domain.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CATALYTIC ACTIVITY: Preferential cleavage: Lys-|-Xaa > Arg-|-Xaa; higher selectivity than trypsin. Converts fibrin into soluble
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LAMININ AND VON WILLEBRAND FACTOR.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            HORSE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PF00051; kringle;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  P00747;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        72
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                                                                                                                          remodeling;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             INGPWCYTMNPRKLFDYCDIPLCASS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EADCMLGIGKGYRGKKATTVAGVPCQEWAAQEPHRHGIFTPETNPRAGLEKNYCRNPDGD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EQDCMFGNGKGYRGKKATTVTGTPCQEWAAQEPHRHSTFIPGTNKWAGLEKNYCRNPDGD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     VNGPWCYTTNPRKLFDYCDI PQCESS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (Rel. 20, Created)
(Rel. 20, Last sequence update)
(Rel. 40, Last annotation update)
(EC 3.4.21.7) (Fragment).
   109
109
109
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                                                                                                                              protease; Plasma; Glycoprotein; Fibrinolysis;
Blood coagulation; Kringle; Zymogen.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Chordata; Craniata; Vertebrata; Euteleostomi; Perissodactyla; Equidae; Equus.
   PLASMIN HEAVY CHAIN PLASMIN LIGHT CHAIN KRINGLE 5.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                86
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            B
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RRAPARA CONTINUE TO THE REPORT OF THE REPORT
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Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PLMN MOUSE STANDARD; PR
P20918; QBC1S2; Q99WJ5;
01-FEB-1991 (Rel. 17, Created)
15-SEP-2003 (Rel. 42, Last seque
15-SEP-2003 (Rel. 42, Last annot
Plasminogen precursor (EC 3.4.21
PubMed=1247932;
PubMed=12477932;
PubMed=12477932;
Riausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,
Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,
Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
Altschul S.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,
Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,
Stapleton M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,
Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,
Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DOMAIN
DISULFID
ACT_SITE
ACT_SITE
SITE
SITE
                                                                                                                                                                                                                                                                                  Nagaraja R.; "Genomic sequence analysis in the mouse t-complex region."; submitted (FEB-2002) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                           SEQUENCE
STRAIN=129/Sv;
STRAIN=129/Sv;
                                                                                                                                                                                                                                                     SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDLINE=91184812; PubMed=2081600;
Degen S.J., Bell S.M., Schaefer L.A., Elliot
"Characterization of the cDNA coding for moun
localization of the gene to mouse chromosome
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mus musculus (Mouse)
Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MOUSE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61
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                                                                                                                                                                                                                                                                                                                                                                                                    FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                              8:49-61(1990).
                                                                                                                                                                                                                                                        FROM
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EQDCMFGNGKGYRGKKATTVTGTPCQEWAAQEPHRHSTFIFGTNKWAGLEKNYCRNPDGD
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                                                                                                                                                                                                                                                   N.A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Chordata;
Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    37132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             81.7%;
80.2%;
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Last annotation update)
(EC 3.4.21.7) [Contains: Angiostatin].
                                                                                                                                                                                                                                                                                                                                                          Qian Y.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Œ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SERINE PROTEASE.
BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
INTERCHAIN (BY SIMILARITY).
INTERCHAIN (BY SIMILARITY).
BY SIMILARITY.
SYSTEM (BY SIMILARITY).
CHARGE RELAY SYSTEM (BY SIMILARITY).
CHARGE RELAY SYSTEM (BY SIMILARITY).
STREPTOKINASE-BINDING SITE (PROBABLE).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         4.
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Pred.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Craniata; Vertebrata; Euteleostomi; Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            8E9E56B5C5CDBE01 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             415; DB 1
No. 5e-39;
                                                                                                                                                                                                                                                                                                                                                             Dudekula
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      91
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Elliott R.W.;
for mouse plas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    mouse plasminogen some 17.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ₽
                                                                                                                                                                                                                                                                                                                                                             D:,
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3 (PROBABLE).
5 (PROBABLE).
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RX MEDLINE=95042728; PubMed=7525077;

A O'Reilly M.S., Holmgren L., Shing Y., Chen C.,
A Moses M., Lane W.S., Cao Y., Sage B.H., Folkman

T "Angiostatin: a novel angiogenesis inhibitor tha
suppression of metastases by a Lewis lung Carricell 79:315-328(1994).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., H Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A Fahey J., Helton B., Ketteman M., Madan A., Rodrigues S., S Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard Glakeeley R.W., Touchman J.W., Green E.D., Dickson M.C., Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M., Butterfield Y.S.N., Krzywinski M.I., Skalska U., Smailus D. Schnerch A., Schein J.E., Jones S.J.M., Marra M.A.; "Generation and initial analysis of more than 15,000 full-l and mouse cDNA sequences.";
                                                                                                       EMBL; J04766; AAA50168.1; --
EMBL; AF481053; AAM22156.1;
EMBL; BC014773; AAH14773.1;
EMBL; AY134470; AAH14505.1;
EMBL; AY134430; AAN15805.1;
EMBL; A38514; PLMS.
                                                                                                                                                                                                                     This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the EM the European Bioinformatics Institute. There are no restruse by non-profit institutions as long as its content modified and this statement is not removed. Usage by and entities requires a license agreement (See http://www.isb-sor send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                       PRODUCTS.

-!- ENZYME REGULATION: CONVERTED INTO PLASMIN BY PLASMINOGEN
ACTIVATORS, BOTH PLASMINOGEN AND ITS ACTIVATOR BEING BOUND TO
FIBRIN. CANNOT BE ACTIVATED WITH STREPTOKINASE.
-!- MISCELLANEOUS: PLASMIN IS INACTIVATED BY ALPHA-2-ANTIPLASMIN
INMEDIATELY AFTER DISSOCIATION FROM THE CLOT.
-!- MISCELLANEOUS: IN THE PRESENCE OF THE INHIBITOR, THE ACTIVATION
INVOLVES ONLY CLEAVAGE AFTER ARG-581, RESULTING IN 2 CHAINS HELL
TOGETHER BY 2 DISTULFIDE BONDS. WITHOUT THE INHIBITOR, THE
ACTIVATION INVOLVES ALSO REMOVAL OF THE ACTIVATION DEPTIDE.
-!- SIMILARITY: BELONGS TO PEPTIDASE PAMILY S1. PLASMINOGEN SUBFAMII
-!- SIMILARITY: Contains 5 kringle domains.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A PROTECLYTIC FACTOR IN A VARIETY OF OTHER PROCESSES INCLUDING EMBRYONIC DEVELOPMENT, TISSUE REMODELING, TUMOR INVASION, AND INFLAMMATION; IN OVULATION IT WEAKENS THE WALLS OF THE GRAAFIAN FOLLICLE. IT ACTIVATES THE UROKINASE-TYPE PLASMINOGEN ACTIVATOR, COLLAGENASES AND SEVERAL COMPLEMENT ZYMOGENS, SUCH AS CI AND C5. IT CLEAVES FIBRIN, FIBRONECTIN, THROMBOSPONDIN, LAMININ AND VON WILLEBRAND FACTOR.

-I- FUNCTION: ANGIOSTATIN IS AN ANGIOGENESIS INHIBITOR THAT BLOCKS NEOVASCULARIZATION AND GROWTH OF EXPERIMENTAL PRIMARY AND METASTATIC TUMORS IN UTVO.

-I- CATALYTIC ACTIVITY: Preferential cleavage: Lys-|-xaa > Arg-|-xaa; higher selectivity than trypsin. Converts fibrin into soluble
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          "Localization of regulatory elements cytokine-stimulated plasminogen gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Bannach F.G., Gutierrez A., Parmer R.J., Miles L.A.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PubMed=12149246;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STRAIN=129/SvJ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE OF 1-16 FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           stimulated plasminogen gene Chem. 277:38579-38588 (2002).
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                                                                                                                                                                                      AAA50168.1; -.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sci. U.S.A. 99:16899-16903(2002)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   в.J.,
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                                                                                                                                                                                                                                           noved. Usage by and fo
(See http://www.isb-sib.
                                                                                                                                                                                                                                                                              There are no restrictions ng as its content is in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Folkman
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Bugge
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Lys- |-Xaa > Arg- |-Xaa;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 T.H., Degen J.L.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Rosenthal R
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ., Hulyk S.W., R.A.,
                                                                                                                                                                                                                                                                                                                      igh a collaboration -
                                                                                                                                                                                                                                                                                                                                                                                                                                                     CHAINS HELD
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1 G.G.,
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HSSP; P00747; 1PMK.
MEROPS; S01.233; -.
MGD; MGI:97620; Plg.
GO; GO:0016506; F:apoptosis activator
GO; GO:0006915; P:apoptosis; IDA.
InterPro; IPR001314; Chymotrypsin.

InterPro; nterPro;

Kringle

IPR003014; IPR003609; IPR003966;

enuerPro; IPRO01254; Ser_protease_Try.

Pfam; PF00051; kringle; S.

Pfam; PF00024; PAN; 1.

Pfam; PF00029; tryneir

PRINTS; ppon2

Pfam; PF00089; trypsin; 1.
PRINTS; PR00722; CHYMOTRYPSIN.
PRINTS; PR00018; KRINGLE.

PRINTS; PR01505; PR0 ProDom; PD000395; Ki SMART; SM00130; KR;

PROTHROMBIN.; Kringle; 5.

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RX MEDLINGHE-BERIES 229; Pubmede3356193;
RA Marti T., Schaller J., Rickli E.E., Schmid K., Kamerling J.P.,
RA Gerwig G.J., van Halbeek H., Vliegenthart J.F.;
Ra Gerwig G.J., van Halbeethart J.F.;
Ra Gerwig G.J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE OF 1-560.

Schaller J., Marti T., Roesselet S.J., Kaempfer U., Rickli E.E "Amino acid sequence of the heavy chain of porcine plasmin. Cor of the carbohydrate attachment sites with the human and bovine species.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       01-FEB-1991
28-FEB-2003
                                 GlycoSuiteDB; P06867; -.
InterPro; IPR0001314; Chymotrypsin.
InterPro; IPR000001; Kringle.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  P06867;
01-JAN-1988
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                                                                                                                                                 HSSP; P00747; 5HPG.
MEROPS; S01.233; -.
                                                                                                                                                                               PIR; S03733; PLPG
HSSP; P00747; 5HPC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     miniplasminogen.";
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae; Sus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sus scrofa
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       InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CARBOHYDRATE-LINKAGE SITES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      "Determination of the complete amino-acid sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Fibrinolysis 1:91-102(1987).
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                                                                                                                                                                                                                                                   IMMEDIATELY AFTER DISSOCIATION FROM THE SIMILARITY: BELONGS TO PEPTIDASE FAMILY SIMILARITY: Contains 5 kringle domains.
                                                                                                                                                                                                                                                                                                                                                                                                                                  ENZYME REGULATION: CONVERTED INTO PLASMIN BY PLASMINOGEN ACTIVATORS, BOTH PLASMINOGEN AND ITS ACTIVATOR BEING BOUND TO FIBRIN. CANNOT BE ACTIVATED WITH STREPTOKINASE. PTM: N-LINKED GLYCAN CONTAINS N-ACETYLLACTOSAMINE, SIALIC ACID IS CORE FUCOSYLATED. O-LINKED GLYCANS CONSIST OF GAL-GALNAC DISACCHARIDE WITH IS MODIFIED WITH UP TO 2 SIALIC ACID RESIDUES
                                                                                                                                                                                                                                                                                                                                                                       MISCELLANEOUS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           products.
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                                                                                                                                                                                                                                                                                                                                                                       PLASMIN IS INACTIVATED BY ALPHA-2-ANTIPLASMIN
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                                                                                                                                                                                                                                                                                                   S1.
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interPro; nterPro;

IPR001254;

Ser

c_protease_Try.

IPR003609; Pan_app. IPR003966; Prothrombin

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RESULT
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R PRINTS; PRO10018; KRINGLE.

R PRINTS; PRO10018; KRINGLE.

R PRINTS; PRO10039; Kringle; 5.

R PRODOM; PD000395; Kringle; 5.

R SMART; SM00130; KR; 5.

R SMART; SM00131; PAN AP; 1.

R SMART; SM00131; PAN AP; 1.

R SMART; SM00021; TRYP SPC; 1.

R PROSITE; PS00012; KRINGLE 1; 5.

R PROSITE; PS50070; KRINGLE 2; 5.

R PROSITE; PS50070; TRYPSIN DOM; 1.

R PROSITE; PS500134; TRYPSIN HIS; FALSE NEG.

R PROSITE; PS500134; TRYPSIN SER; 1.

R PROSITE; PS500135; TRYPSIN SER; 1.

R PROSITE; PS500135; TRYPSIN SER; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local
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                                                                                                                          Eukaryota; Metazoa; Ch
Mammalia; Eutheria; Ce
Bovidae; Bovinae; Bos.
                                                                                                                                                                                       01-JAN-1988 (Rel. 06, Created)
01-NOV-1997 (Rel. 35, Last sequence update)
28-FEB-2003 (Rel. 41, Last annotation update)
Plasminogen precursor (EC 3.4.21.7).
                                    Berglund L., Andersen M.D., Pe "Cloning and characterization Int. Dairy J. 5:593-603(1995).
                                                                                                           NCBI_TaxID=9913;
                                                                                                                                                                                                                               P06868; Q28162;
01-JAN-1988 (Re
                                                                                                                                                                                                                                                                         BOVIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE
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Pfam; PF00024; PAN; 1.
Pfam; PF00089; trypsin; 1.
                                                                                      SEQUENCE FROM N.A.
                                                                                                                                                                   Bos taurus (Bovine).
                                                                                                                                                                                                                                                          PLMN_BOVIN
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CARBOHYD
                                                                          TISSUE=Liver;
MEDLINE=85203906; PubMed=3846532;
            SEQUENCE OF 27-812,
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645
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                                                                                                                                                                                                                                                          STANDARD;
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            AND CARBOHYDRATE-LINKAGE
                                                                                                                                        Chordata; Craniata; Vertebrata; Euteleostomi; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
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Pred. No. 5
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KRINGLE 2.
KRINGLE 3.
KRINGLE 4.
KRINGLE 5.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             N-LINKED (GLCNAC. ..).
/FTId=CAR 000019.
O-LINKED (GALNAC. ..).
/FTId=CAR_000020.
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CHARGE RELAY SYSTEM.
CHARGE RELAY SYSTEM.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 pulation; Kringle; Zymogen; PLASMIN HEAVY CHAIN A. PLASMIN LIGHT CHAIN B.
                                                                                                                                                                                                                                                          PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  F04EA06E74BCD58E CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                               Mismatches
                                                                                                                                                                                                                                                                                                                                                   98
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                                                T.E.;
bovine
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5.7e-38;
                                                                                                                                                                                                                                                          B
                                                plasminogen
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RA Marti T., Schaller J., Rickli E.E., Schmid K., Kamerling J.P.,
RA Gerwig G.J., van Halbeek H., Vliegenthart J.F.;
The N- and O-linked carbohydrate chains of human, bovine and porcine
Typlasminogen. Species specificity in relation to sialylation and
RT fucosylation patterns.";
LEUT. J. Biochem. 173:57-63 (1988).

C. I. FUCTION: PLASMIN DISSOLVES THE FIBRIN OF BLOOD CLOTS AND ACTS AS
C. A PROTECTYTIC FACTOR IN A VARIETY OF OTHER PROCESSES INCLUDING
C. RMERYONIC DEVELOPMENT. TISSUE REMODELING, TUMOR INVASION,
C. AND INFLAMMATION; IN OVULATION IT WEAKENS THE WALLS OF THE
C. GRAAFIAN FOLLICLE. IT ACTIVATES THE UROKINASE-TYPE PLASMINOGEN
ACTIVATOR, COLLAGENASES AND SEVERAL COMPLEMENT ZYMOGENS, SUCH
AS CI AND CS. IT CLEAVES FIBRIN, FIBRONECTIN, THROMBOSPONDIN,
C. LAMININ AND VON WILLEBRAND FACTOR.
C. CATALYTIC ACTIVITY: Preferential cleavage: Lys-|-Xaa > Arg-|-Xaa;
T. CATALYTIC BECLIVITY than trypsin. Converts fibrin into soluble
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Kampfer U., Rickli E.E.;
"Complete amino acid sequence on human plasminogen.";
Bur. J. Biochem
                                PRINTS; PR00722; CHYMOTRYPSIN
PRINTS; PR00018; KRINGLE.
PRINTS; PR01505; PROTHROMBIN.
ProDom; PD000395; Kringle; 5.
SMART; SM00130; KR; 5.
                                                                                                                                                                                                                                                             MEROPS; S01.233; -. GlycoSuiteDB; P06868; -. InterPro; IPR001314; Chymotrypsin.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               This
                                                                                                                                        Pfam; PF00051; kringle; Pfam; PF00024; PAN; 1.
                                                                                                                                                                                                                                                                                                                EMBL; X79402; CAA55939.1;
EMBL; K02935; AAA30714.1;
PIR; S45046; PLBO.
HSSP; P00747; 2PK4.
                                                                                                                                                                                                                                                                                                                                                                                                                        the European Bioinformatics Institute. There are no restrict use by non-profit institutions as long as its content is modified and this statement is not removed. Usage by and foentities requires a license agreement (See http://www.isb-sib.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE
                                                                                                                                                                                         InterPro; IPR003609;
InterPro; IPR003966;
                                                                                                                                                                                                                          InterPro; IPR001314;
InterPro; IPR000001;
InterPro; IPR003014;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               between
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                                                                                                                                                          InterPro; IPR001254; Ser protease Try.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WEDLINE=88185329; PubMed=3356193;
                                                                                                                                                                                                                                                                                                                                                                                                       send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRODUCTS.

ENZYME REGULATION: CONVERTED INTO PLASMIN BY PLASMINOGEN ENZYME REGULATION: CONVERTED INTO PLASMIN BY PLASMINOGEN ACTIVATORS, BOTH PLASMINOCEN AND ITS ACTIVATOR BEING BOUND TO FIBRIN. CANNOT BE ACTIVATED WITH STREPTOKINASE.

PTM: N-LINKED GLYCAN CONTAIN N-ACETYLLACTOSAMINE AND SIALIC ACID.

O-LINKED GLYCANS CONSIST OF GAL-GALNAC DISACCHARIDE WITH IS MODIFIED WITH UP TO 2 SIALIC ACID RESIDUES (MICROHETEROGENSITY).

MISCELLANEOUS: PLASMIN IS INACTIVATED BY ALPHA-2-ANTIPLASMIN IMMEDIATELY AFTER DISSOCIATION FROM THE CLOT.

SIMILARITY: BELONGS TO PEPTIPASE FAMILY S1. PLASMINOGEN SUBFAMIL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SWISS-PROT entry is copyright. It is produced through een the Swiss Institute of Bioinformatics and the EN
                                                                                                                          PF00089; trypsin; 1.
 ; SM00130;
; SM00473;
; SM00020;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       OF 706-812 FROM N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                bovine plasminogen.";
try 23:4243-4250(1984).
                PAN_AP; 1.
Tryp_SPc; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        149:267-278 (1985)
                                                                                                       CHYMOTRYPSIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PubMed=6148961;
                                                                                                                                                                                                                                            Kringle
                                                                                                                                                                                           Pan_app.
Prothrombin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Dannegger-Muller G.A.K.,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         plasminogen. Comparison with
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               and the EMBL outstation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PLASMINOGEN SUBFAMILY.
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PLMN ERIEU
ID PLMN ERIEU
AC Q29485;
DT 01-NOV-1997
DT 01-NOV-1997
DT 28-FEB-2003
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Matches 67
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PROSITE;
PROSITE;
PROSITE;
Erinaceus europaeus
Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                             Lawn R.M., Boonmark N.W., Schwartz K., Lindahl G.E., Byrne C.D., Fong K.J., Meer K., Patthy L.; Byrne recurring evolution of lipoprotein(a). Insights hedgehog apolipoprotein(a)."; Lindahl G.E., Biol. Chem. 270:24004-24009(1995).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CARBOHYD
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                                                                                                                                                                                  NCBI_TaxID=9365;
                                                                                                                                                                                                                                              Plasminogen
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                                                          REVISIONS.
                                                                                                                                         MEDLINE=96025778; PubMed=7592597;
                                                                                                                                                             SEQUENCE FROM N.A.
                                                                                                                                                   SSUE=Liver;
                                                                                                                                                                                                                                                                                                                                                            542
                                                                                                                                                                                                                                                                                                                                                                                                          482
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                                                                                                                                                                                                                                                                                                                                                             VNGPWCYTMNPRKPFDYCDVPQCESS
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335
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744
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(Rel. 35, Last seq
(Rel. 41, Last ann
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                                                                                                                                                                                                                                                                                                     STANDARD;
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KRINGLE 2; 5.

TRYPSIN DOM; 1.

TRYPSIN THIS; 1.

TRYPSIN SER; 1.

PROTERES: Plasma; Glycoprotein; Fibrinolysis;

protease; Plasma; Glycoprotein; Repeat;
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762
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188
188
269
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                                                                                                                                                                                                 Insectivora; Erinaceidae; Erinaceinae; Erinaceus.
                                                                                                                                                                                                            Chordata;
                                                                                                                                                                                                           (Western European hedgehog).
Chordata; Craniata; Vertebrata; Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                79.9%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   91216
                                                                                                                                                                                                                                           , Last sequence upo
, Last annotation u
r (EC 3.4.21.7).
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CHARGE RELAY SYSTEM.

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N -> D (IN REF. 2).

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T -> R (IN REF. 3).
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O-LINKED (GALNAC. .
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                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mismatches
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LIGHT
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    TUMOR INVASION,
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PRINTS; PRO0722; CHYMOTRYPSIN.
PRINTS; PRO0018; KRINGLE.
PRINTS; PRO10018; KRINGLE.
PRINTS; PRO10018; PROTROMBIN.
PRODOm; PD000395; Kringle; 5.
SMART; SM00130; KR; 5.
SMART; SM00130; KR; 5.
SMART; SM00020; TYPG SPC; 1.
SMART; SM00020; TYPG SPC; 1.
SMART; SM00020; KRINGLE 1; 5.
PROSITE; PS00021; KRINGLE 2; 5.
PROSITE; PS00134; TRYPSIN_DM; 1.
PROSITE; PS00134; TRYPSIN_HIS; 1.
PROSITE; PS00134; TRYPSIN_HIS; 1.
PROSITE; PS00135; TRYPSIN_HIS; 1.
PROSITE; PS00134; TRYPSIN_HIS; 1.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      InterPro; IPR001314; Chymotrypsin.
InterPro; IPR000001; Kringle.
InterPro; IPR003014; PAN.
InterPro; IPR003069; Pan app.
InterPro; IPR003966; Prothrombin.
InterPro; IPR001254; Ser protease_Try.
Pfam; PF00051; kringle; 5.
                                                                                                                                                                                                                                                                          Tissue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EMBL; U33171; AAC48717.1;
PIR; I46260; I46260.
                                                                                                                                                                                                                                                                                      Hydrolase;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      between
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MEROPS; S01
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          s SWISS-PROT entry is copyright. It is produced through ween the Swiss Institute of Bioinformatics and the EW European Bioinformatics Institute. There are no restrest by non-profit institutions as long as its content infinity of the statement is not removed. Usage by and ifficed and this statement is not removed. Usage by and institutions as its content is not removed.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ENZYME REGULATION: CONVERTED INTO PLASMIN BY PLASMINOGEN ACTIVATORS, BOTH PLASMINOGEN AND ITS ACTIVATOR BEING BOUND TY FIBRIN. CANNOT BE ACTIVATED WITH STREPTOKINASE. MISCELLANEOUS: PLASMIN IS INACTIVATED BY ALPHA-2-ANTIPLASMIN IMBEDIATELY AFTER DISSOCIATION FROM THE CLOT. SIMILARITY: BELONGS TO PEPTIDASE FAMILY S1. PLASMINOGEN SUBFASIMILARITY: Contains 5 kringle domains.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LAMININ AND VON WILLEBRAND FACTOR.

CATALYTIC ACTIVITY: Preferential cleavage: Lys-|-Xaa > Arg-|-Xaa;
higher selectivity than trypsin. Converts fibrin into soluble
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   products.
ENZYME REGULATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AND INFLAMMATION; IN OVULATION IT WEAKENS THE WALLS OF THE GRAAFIAN FOLLICLE. IT ACTIVATES THE UNKINASE-TYPE PLASMINOGEN ACTIVATOR, COLLAGENASES AND SEVERAL COMPLEMENT ZYMOGENS, SUCH AS C1 AND C5. IT CLEAVES FIBRIN, FIBRONECTIN, THROMBOSPONDIN,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        P00747;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PF00089; trypsin; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PF00024; PAN;
                                                                                                                                                                                                                                                                          remodeling;
 Similarity
                                         339
                                                                                                                                                                                                                                                                          Serine protease; Plasma; Glycoprotein; Fibrinolysis; 
pdeling; Blood coagulation; Kringle; Zymogen; Repeat;
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20
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583
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1103
1185
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662
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                                         339 I
90902 MW;
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181
181
156
262
352
561
760
76.4%;
77.6%;
                                                        KRINGLE 5
CHARGE RE
CHARGE RE
CHARGE RE
N-LINKED
Score
Pred.
                                                                                                                 KRINGLE 1.
KRINGLE 2.
KRINGLE 3.
KRINGLE 4.
KRINGLE 5.
                                                                                                                                                                                                    PLASMIN HEAVY CHAIN
PLASMIN LIGHT CHAIN
                                                                                                                                                                                        SERINE
                                                                                                                                                                                                                                BY SIMILARITY. PLASMINOGEN.
                                        CHARGE RELAY SYSTEM.
CHARGE RELAY SYSTEM.
CHARGE RELAY SYSTEM.
N-LINKED (GLCNAC. . .) (PO:
8E75780946017A16 CRC64;
 388;
No. 1.
                                                                                                                                                                                        PROTEASE.
 DB 1;
.3e-35;
             Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PLASMINOGEN SUBFAMILY
                                                                                                                                                                                                       в≽
                                                                                                                                                                                                     (BY SIMILARITY)
(BY SIMILARITY)
                                                           (POTENTIAL).
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66;

Conservative

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Mismatches

16;

Indels

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Gaps

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60

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RESULT 11
PLMN_RAT
       S
PRINTS; PRO0018; KRĪNGLE.
PRINTS; PRO1505; PROTHROMBIN.
PRODOM; PD000395; Kringle; 2.
SMARR; SM00130; KR; 1.
PROSITE; PS00021; KRINGLE 1; 1.
PROSITE; PS00070; KRINGLE 2; 2.
PROSITE; PS50070; KRINGLE 2; 2.
PROSITE; PS500134; TRYPSIN DOM; PAPROSITE; PS00134; TRYPSIN SER; PAPROSITE; PS00135; TRYPSIN SER; PA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PLMN RAT
Q01177;
                                                                                                                                                                                                                                                                                                                                               This SWISS-PROT entry is copyright. It is produced between the Swiss Institute of Bioinformatics and the European Bioinformatics Institute. There are use by non-profit institutions as long as its condified and this statement is not removed. Usage modified and this statement is not removed.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      receptor site for plasminogen.";
J. Biol. Chem. 266:10825-10829(1991).
-i- FUNCTION: PLASMIN DISSOLVES THE FIBRIN OF BLOOD CLOTS AND ACTS
-i- A PROTEOLYTIC FACTOR IN A VARIETY OF OTHER PROCESSES INCLUDING
                                                                                                                                                       InterPro; IPR000001; Kringle.
InterPro; IPR003966; Prothrombin.
InterPro; IPR001254; Ser_protease_Try.
Pfam; PF00051; kringle; 2.
                                                                                                                                                                                                                             HSSP; P00747; 1PMK.
MEROPS; S01.233; -.
                                                                                                                                                                                                                                                              EMBL; M62832; AAA41884.1; -. PIR; A40522; A40522.
                                                                                                                                                                                                                                                                                                                  entities requires a license agreement (S or send an email.to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MEDLINE=91250378; PubMed=1645711;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NCBI_TaxID=10116;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Plasminogen
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28-FEB-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      01-APR-1993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          "Identification of the rat Heymann nephritis autoantigen (GP330) as
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Kanalas J.J., Makker
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Rattus norvegicus (Rat).
                                                                                                                                                                                                                                                                                                                                                                                                                                              Products.

ENZYME REGULATION: CONVERTED INTO PLASMIN BY PLASMINOGEN
ACTIVATORS, BOTH PLASMINOGEN AND ITS ACTIVATOR BEING BOUND TO
FIBRUN. CANNOT BE ACTIVATED WITH STREPTOKINASE.

MISCELLANEOUS: PLASMIN IS INACTIVATED BY ALPHA-2-ANTIPLASMIN
IMMEDIATELY AFTER DISSOCIATION FROM THE CLOT.

SIMILARITY: BELONGS TO PEPTIDASE FAMILY S1. PLASMINOGEN SUBFAMILY.
SIMILARITY: Contains 5 kringle domains.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LAMININ AND VON WILLEBRAND FACTOR.

CATALYTIC ACTIVITY: Preferential cleavage: Lys-|-Xaa > Arg-|-Xaa; higher selectivity than trypsin. Converts fibrin into soluble
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EMBRYONIC DEVELOPMENT, TISSUE REMODELING, TUMOR INVASION, AND INFLAMMATION; IN OVULATION IT WEAKENS THE WALLS OF THE GRAAFIAN FOLLICLE. IT ACTIVATES THE UNKINASE-TYPE PLASMINOGEN ACTIVATOR, COLLAGENASES AND SEVERAL COMPLEMENT ZYMOGENS, SUCH AS C1 AND C5. IT CLEAVES FIBRIN, FIBRONECTIN, THROMBOSPONDIN,
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(Rel. 25, Last sequence update)
(Rel. 41, Last annotation updat
(EC 3.4.21.7) (Fragment).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              S.P.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRT;
                     PARTIAL.
PARTIAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 563
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                                                                                                                                                                                                                                                                                                                                noved. Usage by and for commercial (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                      There are no
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RESULT 12
HGFL_HUMAN
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Best Local S
Matches 41
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DISULFID
DISULFID
DISULFID
NON TER
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           HGFL HUMAN STANDARD; PRT; 711 AA.
P26927; Q13350; Q14870;
01-AUG-1992 (Rel. 23, Created)
01-AUG-1992 (Rel. 23, Last sequence update)
28-FEB-2003 (Rel. 41, Last annotation update)
Hepatocyte growth factor-like protein precursor (Macrophage stimulatory protein) (MSP) (Macrophage stimulating protein)
                                   This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the Extra the European Bioinformatics Institute. There are no restructe by non-profit institutions as long as its content use by non-profit institutions as long as its content modified and this statement is not removed. Usage by and
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                                                                                                                                                                                           YOShimura T., Yuhki N., Wang M.H., Skeel A., Leonard E.J.;
"Cloning, sequencing, and expression of human macrophage st
protein (MSP, MST1) confirms MSP as a member of the family
proteins and locates the MSP gene on chromosome 3.";
J. Biol. Chem. 268:15461-15468 (1993)
-i- FUNCTION: PROBABLY HAS NO PROTEOLYTIC ACTIVITY, SINCE C
CHARACTERISTIC OF SERINE PROTEASES CATALYTIC SITES ARE
                                                                                                                                                                                                                                                                                                                                                 Han S., Stuart L.A., Friezner Degen S.J.; "Characterization of the DNF15S2 locus on human chromosome identification of a gene coding for four kringle domains wi homology to hepatocyte growth factor."; Biochemistry 30:9768-9780(1991).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MST1 OR HGFL.
Homo sapiens (Human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    HUMAN
                                                                                                                                                                                                                                                                                            MEDLINE=93340141; PubMed=8393443;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Hydrolase;
                                                                                                                                                                -
                                                                                                                                                                                                                                                                                                                                                                                                                         MEDLINE=92002016; PubMed=1655021;
                                                                                                                                                                                                                                                                                                                                                                                                                                                    EQUENCE FROM N.A.
                                                                                                                PIM: MAY BE CLEAVED AFTER AA 484, TO YIELD A TWO-CHAIN MOLECULE HELD TOGETHER BY DISULFIDE BONDS, OR TWO SEPARATE POLYPEPTIDES. SIMILARITY: BELONGS TO PEPTIDASE FAMILY S1. PLASMINGEN SUBFAMIL SIMILARITY: Contains 4 kringle domains.
                                                                                                                                                                               CONSERVED.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           91
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                                                                                                                                                                                                                                                                                                                        FROM N.A.
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112
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95
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Blood
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Chordata; Craniata; Vertebrata; Euteleostomi; Primates; Catarrhini; Hominidae; Homo.
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KRINGLE 4 (BY SIMILARITY).
KRINGLE 5 (BY SIMILARITY).
BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
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Pred. No. 3.3
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                                                                                              a collaboration
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http://www.isb-sib.ch/announce/

for

restrictions and

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Query Match
Best Local S
Matches 43
                                                                                                                                                                                                                                                                                                                                                   PEAM; PF00089; LTYPBIN; 1.

PRINTS; PR00722; CHYMOTRYBIN.

PRINTS; PR00722; KRINGLE.

PRINTS; PR00105; KRINGLE.

PRINTS; PR01505; PROTHROMBIN.

ProDom; PD000395; Kringle; 4.

SMART; SM00130; KR; 4.

SMART; SM00473; PAN AP; 1.

SMART; SM00020; Tryp_SPC; 1.

PROSITE; PS00070; KRINGLE 1; 4.

PROSITE; PS50070; KRINGLE 2; 4.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EMBL; M74178; AAA
EMBL; U37055; AAC
EMBL; L11924; AAA
PIR; A40331; A471
HSSP; P00747; 2PK
MEROPS; S01.975;
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DOMAIN
DOMAIN
DISULFID
                              CONFLICT
SEQUENCE
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DISULFID
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DOMAIN
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Pfam;
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InterPro; IP
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                                                                      VARIANT
                                                                                      VARIANT
                                                                                                      CARBOHYD
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       BL; M74178; AAA50165.1;
BL; UN7955; AAC50471.1;
BL; L11924; AAA59872.1;
R; A40331; A47136.
SP; P00747; 2PK4.
                                                                                                                                                                                                                                                                                                                                                                                                                                                  PF00051; kringle; PF00024; PAN; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         HGNC:7380; MST1.
Similarity
43; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 IPR001314; Chymotrypsin.
IPR000001; Kringle.
IPR003014; PAN.
IPR003609; Pan_app.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       IPR003609; Pan_app.
IPR003966; Prothrombin.
                             623
711
                                                                                     676
Conservative
                               $
                                                                                                                                                                                                                                                                               18
711
109
186
268
361
448
711
                               623
80379
                                                      676
                                                                                                             186
                                                                      212
        47.5%;
51.8%;
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                                                                                                                                                          SERINE PROTEASE-LIKE.
BY SIMILARITY.
                                                                                     N-LINKED (GLCNAC. .
N-LINKED (GLCNAC. .
N-LINKED (GLCNAC. .
Y -> C.
                             /FTId=VAR_006632.

E -> K (IN dbSNP:7798).

/FTId=VAR_014569.

L -> F (IN REF. 2).

L -> F (EF. 2).
                                                                                                                   INTERCHAIN (BY SIMILARITY).
BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
                                                                                                                                                                                                                                                                                       KRINGLE 1.
KRINGLE 2.
KRINGLE 3.
KRINGLE 4.
       Score 241.5; DB 1;
Pred. No. 2.5e-19;
                                                                      /FTId=VAR_006631
                                                                                                                                                                                                                                                                                                                                      POTENTIAL.
                                                                                                                                                                                                                                                                                                                               HEPATOCYTE GROWTH
                                                                                                                                                                                                                                                                                                                                                      protease homolog; Repeat;
Mismatches
                                                                                                                                                                                                                                                                                                                               FACTOR-LIKE PROTEIN
                                CRC64;
              Length 711;
 Indels
                                                                                                     (POTENTIAL)
                                                                                              (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                      Signal;
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 Gaps
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SM00130;

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HGPL MESULFUT 13
HGPL MGFL M
AC P26928
DT 15-SEP
DT 15-SEP
DT 15-SEP
DT 11-SEP
DE Heptlo
GN MST1 OI-AUG
DT 16-SEP
DT 16-SEP
DT 11-SEP
DT 16-SEP
DT 17-SEP
DT 17-SEP
DT 17-SEP
DT 17-SEP
CC -1- TI
CC -1- TI
CC -1- TI
CC -1- TI
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CC
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                 InterPro; IPR003014; PAN.
InterPro; IPR003609; Pan app.
InterPro; IPR003509; Pan app.
InterPro; IPR001254; Ser protease_Try.
Pfam; PF00051; kringle; 4.
Pfam; PF00024; PAN; 1.
Pfam; PF00029; trypsin; 1.
PRINTS; PR00722; CHYMOTRYPSIN.
PRINTS; PR00505; PROTHROWBIN.
PRODOM; PF0000395; Kringle; 4.
PRODOM; PR0000395; Kringle; 4.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            P26928;
01-AUG-1992
01-AUG-1992
                                                                                                                                                                                                                                                         MEROPS; S01.975; -..
MGD; MGI:96080; Mst1.
InterPro; IPR001314; Chymotrypsin.
InterPro; IPR000001; Kringle.
InterPro; IPR003014; PAN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Friezner Degen S.J., Stuart L.A., Han S., Jamison C.S., "Characterization of the mouse cDNA and gene coding for a growth factor-like protein: expression during development. Biochemistry 30:9781-9791 (1991).
                                                                                                                                                                                                                                                                                                                                                                            EMBL; M74180; AAA50166.1; -.
EMBL; M74181; AAA50167.1; -.
PIR; A40332; A40332.
HSSP; P00747; IKRN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
STRAIN=BALB/c; TISSUE=Liver;
MEDLINE=92002017; PubMed=1832957;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                01-AUG-1992 (Rel. 23, Created)
01-AUG-1992 (Rel. 23, Last sequence up
15-SEP-2003 (Rel. 42, Last annotation
Hepatocyte growth factor-like protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  entities requires a license agreement (S or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           use by non-profit institutions as long modified and this statement is not removed
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       between
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mus musculus (Mouse).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               stimulatory protein) (MSP).
MST1 OR HGFL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Hepatocyte growth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            European Bioinformatics Institute.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SIMILARITY: Contains 4 kringle domains.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SIMILARITY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            JUST BEFORE BIRTH THE LEVEL INCRES
STABLE AFTERWARDS.
PTM: MAY BE CLEAVED AFTER AA 488,
HELD TOGETHER BY DISULFIDE BONDS,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DEVELOPMENTAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TISSUE SPECIFICITY: LIVER. LOWER LEVELS IN LUNG,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CONSERVED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CHARACTERISTIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        POLYPEPTIDES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SWISS-PROT entry is copyright. It is produced through een the Swiss Institute of Bioinformatics and the EN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MOUSE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PEPTIDASE FAMILY
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Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     84
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(See http://www.isb-sib.
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Best Local S
Matches 40
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01-JAN-1990
28-FEB-2003
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CONFLICT
SEQUENCE
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DISULFID
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P14417;
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DOMAIN
                                                                                                                                              Eukaryota; Metazoa; Chor
Mammalia; Eutheria; Prim
Cercopithecinae; Macaca.
                                                                                                                                                                                                                                                                                                                                                                                                                        MACMU
SEQUENCE FROM N.A.
MEDLINE=89174660; PubMed=2925643;
Tomlinson J.E., McLean J.W., Lawn
"Rhesus monkey apolipoprotein(a).
                                                                                                                                                                                                                       Macaca mulatta (Rhesus macaque)
                                                                                                                                                                                                                                                                     Apolipoprotein(a)
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                                                                                                                       NCBI_TaxID=9544;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             r; SM00473; PAN_AP; 1.
r; SM00020; TRYP_SPc; 1.
r; SM00020; TRYP_SPc; 1.
rie; PS00021; KRINGLE 1; 4.
rie; PS50070; KRINGLE 2; 4.
rie; PS50240; TRYPSIN_DOM; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 62
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 N
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(Rel. 13,
(Rel. 41,
ein(a) (EC
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A
                                                                                                                                                                                                                                                                                                                                                                                               STANDARD;
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Primates; Catarrhini;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        47.1%;
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Last annotation update)
3.4.21.-) (Apo(a)) (Lp(a))
                                                                                                                                                                                                                                                                                                                                            Created)
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BY SIMILARITY.
BY SIMILARITY.
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OF SIMIL
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BY SIMILARITY.
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BY SIMILARITY,
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Pred. No. 4.2
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POTENTIAL.
HEPATOCYTE GROWTH FACTOR-LIKE PROT
                                                                                                                                                                                                                                                                                                                                                                                               PRT;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mismatches
R.M.;
Sequence,
                                                                                                                                                                                                                                                                                                                                                                                               1420
                                                                                                                                                                                                Vertebrata;
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                                                                                                                                                                       Cercopithecidae
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Matches 42
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Pfam; PF00089; trypsin; 1.

PRINTS; PR00072; CHYMOTRYPSIN.

PRINTS; PR00018; KRINGLE.

ProDom; PD000395; Kringle; 10.

SMART; SM00020; Tryp_SPc; 1.

PROSITE; PS00021; KRINGLE 1; 10.

PROSITE; PS50070; KRINGLE 2; 10.

PROSITE; PS50070; KRINGLE 2; 10.

PROSITE; PS50240; TRYPSIN_DOM; 1.

PROSITE; PS00134; TRYPSIN_SER; FALSE_NEG.

PROSITE; PS00135; TRYPSIN_SER; FALSE_NEG.

PROSITE; PS00135; TRYPSIN_SER; FALSE_NEG.

PROSITE; PS00135; TRYPSIN_SER; FALSE_NEG.
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Kringle; Re
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DOMAIN
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                                                                                                               SEQUENCE
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HSSP; P00747; 2PK4.
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InterPro; IPR000001; Kringle.
InterPro; IPR001254; Ser_protease_
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decorin (By similarity).

PTM: N- and O-glycosylated (By similarity).

DISEASE: Elevated plasma concentrations of apo(a) and its naturally occurring proteolytic fragments are correlated with atherosclerosis. Homology with plasminogen kringles IV and V is thought to underlie the atherogenicity of the protein, because the fragments are competing with plasminogen for fibrin(ogen) binding.

MISCELLANEOUS: Apo(a) is known to be proteolytically cleaved, leading to the formation of the so called mini-Lp(a). Apo(a) leading to the formation of the so called mini-tp(a). Apo(a) is known to be proteolytically cleaved.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FUNCTION: Apo(a) is the main constituent of lipoprotein(a) (Lp(a)). It has serine proteinase activity and is able of autoproteolysis. Inhibits tissue-type plasminogen activator Lp(a) may be a ligand for megalin/Gp 330.

SUBUNIT: Disulfide-linked to apo-B100. Binds to fibronectin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           fragments accumulate in atherosclerotic lesions, where they may promote thrombogenesis. O-glycosylation may limit the extent of proteolytic fragmentation (By similarity). SIMILARITY: BELONGS TO PEPTIDASE FAMILY S1. PLASMINOGEN SUBFAMILY.
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 724
                            N
                                                         42;
                                                                     Similarity
 QDCYHGDGQSYRGSFSTTVTGRICQSWSSMTPHWHQRTIEYYPN----GGLTKNYCRNPD
                           QDCMFGNGKGYRGKKATTVTGTPCQEWAAQEPHRHS---TFIPGTNKWAGLEKNYCRNPD
                                                                                                                                                                                                                                                                                                       Repeat
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163
277
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1191
                                                         Conservative
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241
355
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697
803
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2.1e-18;
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PRINTER REPORT OF THE REPORT O
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TISSUB-Leukocyte;
MEDLINE-91025062; PubMed=2145836;
MEDLINE-91025062; PubMed=2145836;
Seki T., Ihara I., Sugimura A., Shimonishi M., Nishizawa Seki T., Hagiya M., Nakamura T., Shimizu S.;
"Isolation and expression of cDNA for different forms of growth factor from human leukocyte.";
growth factor from human leukocyte.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    HGF HUMAN
P14210; Q9BYI
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SEQUENCE OF 249-695 FROM N.A. MEDILINE=91369928; PubMed=183256; Miyazawa K., Kitamura A., Kitamura N.; "Structural organization and the transcription human hepatocyte growth factor gene."; Biochemistry 30:9170-9176(1991).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Nakamura T., Nishizawa T.,
Sugimura A., Tashiro K., Sl
"Molecular cloning and exp:
Nature 342:440-443(1989).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MEDLINE-89392017; PubMed=2528952;
Miyazawa K., Tsubouchi H., Naka D.,
Arakaki N., Nakayama H., Hirono S.,
Gohda E., Daikuhara Y., Kitamura N.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A.
MEDLINE=91340155; PubMed=1831432;
Seki T., Hagiya M., Shimonishi M.,
"Organization of the human hepatoc)
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15-SEP-2003 (Rel. 42, Last annotation update)
Hepatocyte growth factor precursor (Scatter factor) (SF)
                                                                                                                                                                                                                                                                                                                                                        TISSUE-Embryonic fibroblast;
MEDLINE-9134393; PubMed-1831266;
Weidner K. M., Arakaki N., Hartmann G.,
Rieder H., Fonatsch C., Tsubouchi H.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                     "Evidence for the identity of human scatter factor hepatocyte growth factor.";
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Q9BYL9; Q9UDU6;
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Sakiyama O.,
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Hishida T., Daikuhara
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D90330;

D90329;

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MEDLINE=99036858; PubMed=9817840; Ultsch M., Lokker N.A., Godowski P.J., "Crystal structure of the NK1 fragment factor at 2.0-A resolution."; Structure 6:1383-1393(1998).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MEDLINE=92331602; PubMed=1321034;
Lokker N.A., Mark M.R., Luis E.A., Bennett G.L., Robbins :
Baker J.B., Godowski P.J.;
Structure-function analysis of hepatocyte growth factor:
identification of variants that lack mitogenic activity y
high affinity receptor binding.";
EMBO J. 11:2503-2510(1992).
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Nakayama H., Gohda E., Kitamura N.,
Hishida T., Daikuhara Y.;
                                                                                                                          EMBL;
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                                                                                                                                                                                                                                                    This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the EV the European Bioinformatics Institute. There are no restr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            "Hepatocyte growth factor is linked on the alpha chain.";
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Nakamura T., Shimizu S.;
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                                                                                                                                                                                                                             use by non-profit institutions as long modified and this statement is not removed.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Rubin J.S., Bottaro D.P., Byrd R.A.; "The solution structure of the N-terminal domain factor reveals a potential heparin-binding site."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STRUCTURE BY NMR OF 31-127.
MEDLINE=98154323; PubMed=9493272;
Zhou H., Mazzulla M.J., Kaufman J.D.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MUTAGENESIS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 "Identification of the N-terminal residue of the native and recombinant human hepatocyte growth fa Biochem. Biophys. Res. Commun. 175:660-667(1991).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                        -RAY CRYSTALLOGRAPHY (2.0 ANGSTROMS)
                                                                                                                                                                                                                                                                                                                              FUNCTION: HGF IS A POTENT MITOGEN FOR MATURE PARENCHYMAL HEPATOCYTE CELLS, SEEMS TO BE AN HEPATOTROPHIC FACTOR, AND AS GROWTH FACTOR FOR A BROAD SPECTRUM OF TISSUES AND CELL IT HAS NO DETECTABLE PROTEASE ACTIVITY.

SUBUNIT: DIMER OF AN ALPHA CHAIN AND A BETA CHAIN LINKED B DISULFIDE BOND.
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L outstation -
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MIM; 142409; ...

MIM; 142409; ...

MIM; 1620007067; P:mitosis; NAS.

GO; GO:0007067; P:mitosis; NAS.

InterPro; IPR001314; Chymctrypsin.

InterPro; IPR001314; EAN.

InterPro; IPR0013014; PAN.

InterPro; IPR001359; Pan_app.

InterPro; IPR001254; Ser_protease_Try.

Pfam; PF00024; PAN; 1.

DR Pfam; PF00024; PAN; 1.

DR Pfam; PF00024; PAN; 1.

DR Pfam; PF00018; KRINGLE; 4.

DR PRINTS; PR00018; KRINGLE; 4.

DR PRINTS; PR00018; KRINGLE; 1.

DR PRINTS; PR000139; KRINGLE; 1.

DR PROBART; SM00130; KR; 4.

DR SMART; SM001010; Tryp_SPC; 1.

DR SMART; SM001020; Tryp_SPC; 1.

DR PROSITE; PS500701; KRINGLE_1; 4.

DR PROSITE; PS500701; KRINGLE_2; 4.

DR PROSITE; PSTORTE PSTORTE PSTORTE PSTORTE PSTORTE
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Best Local S
Matches 36
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EMBL; X16323; CAA34387.1; -.
EMBL; X16323; CAA34387.1; -.
EMBL; M73239; AAA64297.1; -.
EMBL; M73240; AAA64297.1; -.
EMBL; M75983; AAG53460.1; JOINED EMBL; M75972; AAG53460.1; JOINED EMBL; M75973; AAG53460.1; JOINED EMBL; M75976; AAG53460.1; JOINED EMBL; M75976; AAG53460.1; JOINED EMBL; M75977; AAG53460.1; JOINED EMBL; M75979; AAG53460.1; JOINED EMBL; M75980; AAG53460.1; JOINED EMBL; M75981; AAG53460.1; JOINED EMBL; M75981; AAG53460.1; JOINED EMBL; M75982; AAG53460.1; JOINED EMBL; M75981; AAG53460.1; JOINED EMBL; M75982; AAG53460.1; JOINED EMBL; M75981; AAG53460.1; JOINED EMBL; M75982; AAG53460.1; JOINED EMBL; M75981; AAG534
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                                                                                                             62 NGPWCYTMNPRKLFDYCDIPLCA 84
||||:| || :: |||| |:
185 GGPWCFTSNPEVRYEVCDIPQCS 207
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                                                                                                                                                                                                                              36;
                                                                                                                                                                                                                     h 46.2%; Score 234.5; DB 1; Length 728; Similarity 43.4%; Pred. No. 1.5e-18; 36; Conservative 19; Mismatches 27; Indels 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAA52650.1;
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KRINGLE 2.
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KRINGLE 4.
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Search completed: January 12, 2004, 17:23:58 Job time : 8.43609 secs

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Result
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Listing first 45 summaries
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Perfect score:
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                                                                                                                                                                                         Score
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508
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   SPTREMBL_23:*
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Copyright (c) 1993 - 2004 Compugen Ltd.
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sp_mhc:*
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sp_bacteria:*
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37.9	38.1		38.7		39.3	39.6	40.5	•	41.7	42.1	42.5		43.8	٠	44.8	44.8	44.8	44.8	45.3					46.2	46.2			46.5
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ALIGNMENTS

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1 EQDCMFGNGKGYRGKKATTVTGTPCQEWAAQEPHRHSTF1PGTNKWAGLEKNYCRNPDGD 60 	Query Match 98.6%; Score 501; DB 4; Length 95; Best Local Similarity 98.8%; Pred. No. 1.8e-50; Matches 84; Conservative 1; Mismatches 0; Indels 0; Gaps 0;	SEQUENCE 95 AA; 10553 MW; 31EDC9DB38A372DF CRC64;	tein; Kringle.	PROSITE; PS50070; KRINGLE 2; 1.	MOOLSO; AK; I.	; PD000395; K	PRINTS; PRO1505; PROTHROMBIN.	PRINTS; PRO0018; KRINGLE.	Dfam. DECOORS! Fringle.	InterPro: IPR003966; Prothrombin.	EMBL; AY039748; AAK74187.1;	-!- SIMILARITY: CONTAINS 1 KRINGLE DOMAIN.	2001) to ti	"Antiangiogenic domain of apolipoprotein(a).";	D		SEQUENCE FROM N.A.	[1] I I I I I I I I I I I I I I I I I I I	Mammaiia; Eutheria; Primates; Catarrhini; Hominidae; Homo. NCBT Taxth-9606.	Chordata; Craniata; Vertebrata; E	Homo sapiens (Human).	Antiangiogenic AK38 protein.	01-MAR-2003 (TrEMBLrel. 23, Last annotation update)	(TrEMBLrel.	01-OCT-2002 (TrEMBLrel. 22, Created)		Q8N696 PRELIMINARY; PRT; 95 AA.	96 .

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INGPWCYTMNPRKLFDYCDIPLCAA INGPWCYTMNPRKLFDYCDIPLCAS

95 85

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RESULT 3
Q91WJ5
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PÉAM; PF00089; trypsin; 1.

PRINTS; PR00018; KRINGLE.

PRINTS; PR001018; KRINGLE.

PRINTS; PR01505; PROTHROMBIN.

PRODOM; PD000395; KRINGLE; 5.

SMART; SM00130; KR; 5.

SMART; SM000473; PAN AP; 1.

SMART; SM00020; Tryp_SPC; 1.

PROSITE; PS00021; KRINGLE_1; 5.

PROSITE; PS00021; KRINGLE_2; 5.

PROSITE; PS00134; TRYPSIN_DOM; 1.

PROSITE; PS00134; TRYPSIN_BE; 1.

PROSITE; PS00134; TRYPSIN_BE; 1.

PROSITE; PS00134; TRYPSIN_BE; 1.

PROSITE; PS00134; TRYPSIN_BE; 1.

PROSITE; PS00135; TRYPSIN_BE; 1.

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PROSITE; PS00134; TRYPSIN_BE; 1.

PROSITE; PS00134; TRYPSIN_BE; 1.

PROSITE; PS00135; TRYPSIN_BE; 1.

PROSITE; PS00134; TRYPSIN_BE; 1.

PROSITE; PS00135; TRYPSIN_B
  Q91WJ5;
Q91WJ5;
Q1-DEC-2001
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Q15146;
Q1-NOV-1996
Q1-NOV-1996
Q1-NOV-1996
Q1-MAR-2003
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-- SIMILARITY: CONTAINS 5 KRINGLE DOMAINS.

EMBL; M74220; AAA36451.1; --

HSSP; P00747; 2PK4.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Browne M.J., Chapman C.G., Dodd I., Mitchell D., Robinson J.H.; "Expression of recombinant human plate cells.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             InterPro; IPR003609; Pan_app.
InterPro; IPR003966; Prothrombin.
InterPro; IPR001254; Ser_protease
                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        InterPro; IPR001314; Chymotrypsin.
InterPro; IPR000001; Kringle.
InterPro; IPR003014; PAN.
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                                                                                                                                                                                61
                                                                                                                                                                                                                                                                                                         70;
                                                                                                                                                                                                                                                                                                                              Similarity
                                                                                                                                             VGGPWCYTTNPRKLYDYCDVPQCAA 562
                                                                                                                                                                INGPWCYTMNPRKLFDYCDIPLCAS 85
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810 AA;
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    (TrEMBLrel. 19,
                                            PRELIMINARY;
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Primates;
                                                                                                                                                                                                                                                                                                                           84.6%;
                                                                                                                                                                                                                                                                                                                                                                                         90555 MW;
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Last sequence update)
Last annotation updat
      Created)
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Pred. No. 3.4e-41;
7; Mismatches 8;
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                                            PRT;
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Best Local S
Matches 69
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRINTS; PR00722; CHYMOTRYPSIN.

PRINTS; PR00018; KRINGLE.

PRINTS; PR010018; KRINGLE.

PRODOM; PR0100395; Kringle; 5.

PROSITE; PS00021; KRINGLE 1; 5.

PROSITE; PS00070; KRINGLE 2; 5.

PROSITE; PS00138; SOMATOTROPIN 2; 1.

PROSITE; PS00138; TRYPSIN DOM; 1.

PROSITE; PS00134; TRYPSIN TIS; 1.

PROSITE; PS00134; TRYPSIN TIS; 1.

PROSITE; PS00135; TRYPSIN TIS; 1.

PROSITE; PS00136; TRYPSIN TIS; 1.

PROSITE; PS00137; TRYPSIN TIS; 1.

PROSITE; PS00136; TRYPSIN TIS; 1.

PROSITE; PS00137; TRYPSIN TIS; 1.

PROSITE; PS00136; TRYPSIN TIS; 1.
                                                                                                                                                      01-MAY-2000 (
01-MAY-2000 (
01-MAR-2003 (
Plasminogen p
PLASMINOGEN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mus musculus (Mouse).
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   01-DEC-2001 (TrEMBLrel.
01-MAR-2003 (TrEMBLrel.
Plasminogen.
Rattus norvegicus (Rat).
Eukaryota; Metazoa; Chorv
Mammalia; Eutheria; Rodes
NCBI_TaxID=10116;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Pfam; PF00051; kringle; 5.
Pfam; PF00024; PAN; 1.
Pfam; PF00089; trypsin; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MGD; MGI:97620; Plg.
InterPro; IPR001314; Chymotrypsin.
InterPro; IPR000001; Kringle.
InterPro; IPR003014; PAN.
InterPro; IPR003366; Prothrombin.
InterPro; IPR003264; Ser protease Try.
InterPro; IPR001400; Somatotropin.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            --- SIMILARITY: CONTAINS 5 KRII
EMBL; BC014773; AAH14773.1; ---
EMBL; BF481053; AAM22156.1; ---
HSSP; P00761; 1AN1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Nagaraja R.; "Genomic Sequence Analysis in the Mouse t-complex Region."; Submitted (FEB-2002) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                Q9R0W3;
                                                                                                                                                                                                                                                                                                                                                                                   Q9R0W3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Brathwaite M., Waeltz P., Qian Y.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A.
STRAIN=129/Sv;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Strausberg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TISSUE=Liver;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         538
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        478
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   13
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           69;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       INGPWCYTMNPRKLFDYCDIPLCASS 86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EQDCMFGNGKGYRGKKATTVTGTPCQEWAAQEPHRHSTFIPGTNKWAGLEKNYCRNPDGD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ETDCMYGNGKDYRGKTAVTAAGTPCQGWAAQEPHRHSIFTPQTNPRAGLEKNYCRNPDGD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g R.;
(OCT-2001) to the EMBL/GenBank/DDBJ databases
                                                                                                                                                                                     (TIEMBLrel. 13, Created)
(TIEMBLrel. 13, Last sequence update)
(TIEMBLrel. 23, Last annotation update)
protein precursor (EC 3.4.21.7).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                       PRELIMINARY;
                                                  Chordata;
Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          81.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              19,
23,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           4.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 413; DB 11;
Pred. No. 3.1e-39;
4; Mismatches 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Craniata; Vertebrata; Euteleostomi; Sciurognathi; Muridae; Murinae; Mus
                                          Craniata; Vertebrata; Euteleostomi; Sciurognathi; Muridae; Murinae; Rat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DOMAINS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Dudekula
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                                                                                                                                                                                                                                                                                                                                                                                       812
                                                                                                                                                                                                                                                                                                                                                                                           ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ŭ,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ine protease CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         812;
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                                                          Rattus.
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OA6507
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Best Local S
Matches 68
                                                                                                                                                                                                                                                                                                                                                                           Pfam; PF00051; kringle; 5.

Pfam; PF000024; PAN; 1.

Pfam; PF000024; PAN; 1.

PFINTS; PF00002; CHYMOTRYPSIN.

PRINTS; PR001018; KRINGLE.

PRINTS; PR0010395; Kringle; 5.

RART; SM00130; KR; 4.

SMART; SM00130; KR; 4.

SMART; SM00130; Tryp_SPC; 1.

SMART; SM00020; Tryp_SPC; 1.

PROSITE; PS00021; KRINGLE 1; 5.

PROSITE; PS00021; KRINGLE 1; 5.

PROSITE; PS00138; SOMATOTROPIN 2; 1.

PROSITE; PS00134; TRYPSIN_SER; 1.

PROSITE; PS00135; TRYPSIN_SER; 1.
                                                                                           046507;
01-JUN-1998
01-JUN-1998
01-MAR-2003
                                                                                                                                                                                                                                                                                                                                             CHAIN
SEQUENCE
 Cercopithecinae; Papio. NCBI_TaxID=9557; [1]
                                  Papio hamadryas (Hamadryas baboon).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Cercopithecidae;
                                                                                                                                                                                                                                                                                                                                                                    Glycoprotein;
SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   BABPEPSG
                                                                                Plasminogen
                                                                                                                                            046507
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   InterPro; IPR001314; Chymotrypsin.
InterPro; IPR000001; Kringle.
InterPro; IPR003014; PAN.
InterPro; IPR003609; Pan app.
InterPro; IPR0013609; ProThrombin.
InterPro; IPR001254; Ser protease Try.
InterPro; IPR001400; Somatotropin.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MEDLINE=91250378; PubMed=1645711;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TISSUE=Liver
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Kanalas J.J., Makker S.P.; "Identification of the rat Heymann nephritis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Bangert K.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TISSUE=Liver
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   plasminogen: cDNA and gene structure.";
itted (MAY-1999) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                     538
                                                                                                                                                                                                                           61
                                                                                                                                                                                                                                                                                                68;
                                                                                                                                                                                                                                                                                                            Similarity
                                                                                                                                                                                                                INGPWCYTMNPRKLFDYCDIPLCAS
                                                                                                                                                                                                     VNGPWCYTMNPRKLYDYCNI PLCAS
                                                                                                                                                                                                                                                  ETDCMYGNGKEYRGKTAVTAAGTPCQEWAAQEPHSHRIFTPQTNPRAGLEKNYCRNPDGD
                                                                                                                                                                                                                                                                 EQDCMFGNGKGYRGKKATTVTGTPCQEWAAQEPHRHSTFIPGTNKWAGLEKNYCRNPDGD
                                                                              3 (TrEMBLrel. )
3 (TrEMBLrel. )
3 (TrEMBLrel. )
6 (Fragment).
                                                                                                                                                                                                                                                                                                                                             20
812 /
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Johnsen
                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                           PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  N.A.
                                                                                                                                                                                                                                                                                                                                             AA,
                                                                                                                                                                                                                                                                                                                                             90535 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A.H.,
                                                                                                                                                                                                                                                                                                          80.3%;
                                                                                            06,
23,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Thorsen
                                                                                                                                                                                                                                                                                               4;
                                                                                            Last sequence update)
Last annotation update)
                                                                                                                     Created)
                                                                                                                                                                                                                                                                                               Score 408; DB 11;
Pred. No. 1.2e-38;
4; Mismatches 13
                                                                                                                                                                                                                                                                                                                                             PLASMINOGEN.
; 8C703C51410EBC9E CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           s:
                                                                                                                                                                                                   562
                                                                                                                                                                                                                           85
                                                                                                                                           334
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                                                                                                                                                                                                                                                                                                                                                                                Serine protease; Signal.
                                                                                                                                                                                                                                                                                                13;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              autoantigen
                                                                                                                                                                                                                                                                                                                     Length
                                                                                                                                                                                                                                                                                                Indels
                                                                                                                                                                                                                                                                                                                       812;
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                                                                                                                                                                                                                                                                                                <u>,</u>
                                                                                                                                                                                                                                                                                               Gaps
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InterPro; IPR0013016; Kringle.

InterPro; IPR0012966; Prothrombin.

InterPro; IPR001296; Prothrombin.

InterPro; IPR001294; Ser_protease_Try.

InterPro; IPR001294; Ser_protease_Try.

Pfam; PP00051; kringle; 1.

Pfam; PP00051; kringle; 1.

PRINTS; PR001395; KRINGLE.

NR PRINTS; PR01505; PROTHROMBIN.

PRODOm; PD000395; KRINGLE.

NR PRINTS; SM00110; KR; 1.

NR PROSITE; SM00120; KR; 1.

NR SMART; SM00120; KR; SPC; 1.

NR SMART; SM00120; KR; SPC; 1.

NR PROSITE; PS00020; Tryp_SPC; 1.

NR PROSITE; PS00070; KRINGLE 1; 1.

PROSITE; PS00070; KRINGLE 2; 1.

NR PROSITE; PS00134; TRYPSIN_DOM; 1.

PROSITE; PS00134; TRYPSIN_TOM; 1.

PROSITE; PS00134; TRYPSIN_TIS; 1.

NR PROSITE; PS00134; TRYPSIN_TIS; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Matches
                                                                                                                                                                                                                                                                                                            018783
018783;
                                   InterPro;
InterPro;
                                                                                                                                                                                                   NCBI_TaxID=9315;
                                                                                                                                                                                                                     Macropus eugenii (Tammar wallaby).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Metatheria; Diprotodontia; Macropodidae; Macropus.
                                                                                                                                                                                                                                                                     01-JAN-1998 (TrEMBLrel.
01-JAN-1998 (TrEMBLrel.
01-MAR-2003 (TrEMBLrel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -!- SIMILARITY: CONTAINS 1 | EMBL; AF029692; AAB97887.1; HSSP; P00747; 5HPG.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Cox I.A., Jett C., Hixson J.E.; "Molecular Basis of the Apolipoprotein (a) Null Phenotype: A Splice Site Mutation is Associated with Deletion of a Single Exon in a Null
                                                                                                                                                                                SEQUENCE
                                                                                                                                                                                                                                                        Plasminogen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE
                                                                                                                                                                 TISSUE=Liver;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MEROPS; S01.233;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Submitted (OCT-1997) to the EMBL/GenBank/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TISSUE=Liver;
                                                                                                                                                                                                                                                                                                                                                                                          64
                                                                                                                                                                                                                                                                                                                                                                                                                 63
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              68;
                                                                                                                                                                                                                                                                                                                                                                                                                                           4
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                                                                                                                                                                               FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                          GPWCYTTNPRKLYDYCDVPQCASS
                                                                                                                                                                                                                                                                                                                                                                                                                 GPWCYTMNPRKLFDYCDIPLCASS 86
                                                                                                                                                                                                                                                                                                                                                                                                                                                          DCMFGNGKGYRGKKATTVTGTPCQEWAAQEPHRHSTFIPGTNKWAGLEKNYCRNPDGDIN 62
                                                                                                                                                                                                                                                                                                                                                                                                                                            DCMFGNGKRYRGKKATTVTGTPCQEWAAKEPHSHLIFTPETYPRAGLEKNYCRNPDGDVG
             IPR003014;
IPR003609;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 334 AA; 36791 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                           PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         79.5%;
Prothrombin.
                          PAN.
             Pan
                                                                                                                                                                                                                                                                      23,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 KRINGLE
                                                                                                                                                                                                                                                                     , Created)
, Last sequence up
, Last annotation :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              4; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 404; DB b; -.
Pred. No. 1.3e-38;
""amatches 12;
                                                                                                                                                                                                                                                                                                                           PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 C7DC06E03B965286 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                          87
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DOMAIN
                                                                                                                                                                                                                                                                                                                           806 AA
                                                                                                                                                                                                                                                                     on update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length
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                                                                                                                              and
                                                                                                                              hedgehog.";
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Q8WMR1
ID QF
AC Q
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                                                                                    RESULT 8
                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local S
Matches 47
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Pfam; Proces; trypsin; 1.

PRINTS; PRO072; CHYMOTRYPSIN.

PRINTS; PRO0018; KRINGLE.

PRINTS; PRO1505; PROTHROMBIN.

PRODOm; PD000395; Kringle; 5.

PRART; SM00130; KR; 4.

SMART; SM00131; FAN AP; 1.

SMART; SM00020; Tryp_SPC; 1.

PROSITE; PS00021; KRINGLE_1; 5.

PROSITE; PS00021; KRINGLE_2; 5.

PROSITE; PS50240; TRYPSIN_DOM; 1.

PROSITE; PS50240; TRYPSIN_BOM; 1.

PROSITE; PS00134; TRYPSIN_BIN; 1.

PROSITE; PS00134; TRYPSIN_BIR; 1.

PROSITE; PS00135; TRYPSIN_BIR; 1.

PROSITE; PS00134; TRYPSIN_BIR; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Matches
          Q8WMR1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          QBAVB0;
01-MAR-2003
01-MAR-2003
01-MAR-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            01-MAR-2003 (TrEMBLrel. 23, Created)
01-MAR-2003 (TrEMBLrel. 23, Last sequence update)
01-MAR-2003 (TrEMBLrel. 23, Last sequence update)
01-MAR-2003 (TrEMBLrel. 23, Last annotation update)
Plasminogen precursor (Fragment).
Brachydanio rerio (Zebrafish) (Danio rerio).
Brachydanio rerio (Zebrafish) (Danio rerio).
Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Actinopterygii; Neopterygii; Teleostei; Ostariophysi; Cypriniformes;
Cyprinidae; Danio.
NCBI_TaxID=7955;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NON TER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.

Hanumanthaiah R., Day K., Jagadeeswaran P.;

"Comprehensive analysis of blood coagulation pathways in teleostei:

"Comprehensive analysis of blood genes and identification of zebrafish
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Blood Cells Mol. Dis. 0:0-0(2002).
EMBL; AF515276; AAN71006.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Q8AVB0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              nterPro; IPR001254;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PF00024;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      473
                                                                                                                                                                      159
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    533 PNGPWCYTTNPKKLFDYCDIPQCVS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        63;
                                                                                                                                                                                                                       61 INGPWCYTMNPRKLFDYCDIPLCAS 85
                                                                                                                                                                                                                                                                          99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61 INGPWCYTMNPRKLEDYCDIPLCAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 EQDCMFGNGKGYRGKKATTVTGTPCQEWAAQEPHRHSTFIPGTNKWAGLEKNYCRNPDGD
                                                                                                                                                                                                                                                                                                                                                                            l Similarity
47; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Similarity
                                                                                                                                                                                                                                                                                                           EQDCMFGNGKGYRGKKATTVTGTPCQEWAAQEPHRHSTFIPGTNKWAGLEKNYCRNPDGD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      VNGPWCYTTDPSKKWDYCQIPDCES
                                                                                                                                                                                                                                                                             EKDCKNGNGAEYRGSTSMTVMGVTCQAWRSMTPHQHASFTPETHPDKGLESNQCRNPDSD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       429 AA; 47556 MW;
                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRELIMINARY;
                                      PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                kringle; PAN; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   74.6%;
74.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ser_protease_Try.
le; 5.
                                                                                                                                                                                                                                                                                                                                                                                                        56.1%;
                                                                                                                                                                                                                                                                                                                                                                                  10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 379; DB 6;
Pred. No. 2.7e-35;
7; Mismatches 15
                                                                                                                                                                                                                                                                                                                                                                               Score 285; DB 1
Pred. No. 1e-24;
0; Mismatches
                                      PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       9A580A214A549C12 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    557
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  85
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                                      359
                                                                                                                                                                                                                                                                                                                                                                                                                             DB 13;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                15;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 806
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                   Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
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                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                             158
                                                                                                                                                                                                                                                                                                                                 60
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RESULT 9
39PU78
ID 09PU
AC 09PU
AC 09PU
DT 01-M
DT 01-
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Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Q9PU78 PRELIMINARY; PRT; 313 AA.

Q9PU78;
Q1-MAY-2000 (TrEMBLrel. 13, Created)
Q1-MAY-2000 (TrEMBLrel. 13, Last sequence update)
Q1-MAY-2000 (TrEMBLrel. 23, Last annotation update)
Q1-MAR-2003 (TrEMBLrel. 23, Last annotation update)
Hepatocyte growth factor-like protein (Fragment).
Crocodylus niloticus (Nile crocodile) (African crocodile).
Crocodylus niloticus (Chordata, Craniata, Vertebrata, Euteleostomi,
Archosauria, Crocodylidae, Crocodylinae, Crocodylus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Plasminych (Dog).
Canis familiaris (Dog).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Eukaryota; Metazoa; Chordata; Cranidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NON_TER
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01-MAR-2002 (TrEMBLrel.
01-MAR-2003 (TrEMBLrel.
                                                                                                "Warm-blooded isochore structure in nile crocodile and turtle.";
Mol. Biol. Evol. 16:1521-1527(1999).

- I. SIMILARITY: CONTAINS 1 KRINGLE DOMAIN.

EMBL; AJ011396; CAB56422.1; -.

HSSP; P00747; 1HPJ.

MEROPS; S01.977; -.

InterPro; IPR003966; Prothrombin.

InterPro; IPR001594; Ser_protease_Try.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  -!- SIMILARITY: CONTAINS 4 KRINGLEMBL, AY069985; AAL58519.1; -.
InterPro; IPR000001; Kringle.
InterPro; IPR003966; Prothrombin.
Pfam; PF00051; kringle; 4.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A.
Pirie-Shepherd S.R., Coffman
Folkman J., Waters D.J.;
                                        Pfam;
Pfam;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRINTS; PR00018; KRINGLE.
PRINTS; PR01505; PROTHROMBIN.
ProDom; PD000395; Kringle; 4.
SMART; SM00130; KR; 4.
                                                                                                                                                                                                                                                                                                                                                                                                                              MEDLINE=20022983; PubMed=10555283; Hughes S., Zelus D., Mouchiroud D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Glycoprotein; Kringle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PROSITE; PS00021; KRINGLE_1; PROSITE; PS50070; KRINGLE_2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Submitted (DEC-2001) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Plasminogen (Fragment).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TISSUE=Liver;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NCBI_TaxID=8501;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Angiostatin is Detectable in the
                                    PF00051; kringle;
PF00089; trypsin;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         43;
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       PR00018;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GPWCYTMNPRKLFDYCDIPLC 83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DCMFGNGKGYRGKKATTVTGTPCQEWAAQEPHRHSTFIPGTNKWAGLEKNYCRNPDGDIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GPWCYTTNPDVRFDYCNIPEC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ECKTGNGKTYRGTMAKTKNDVACQKWSDNSPHK-PNYTPEKHPLEGLEENYCRNPDNDEN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              359
359 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   49.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  41172 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                 Mouchiroud D.;
                                                                         Ser_protease_Try.
le; 2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  20,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  4 KRINGLE DOMAINS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Created)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                K.T.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 250.5; DB
Pred. No. 8.4e-21
8; Mismatches 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     776D35F4AB0BDD9E CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       84
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Urine of
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D.
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Canis.
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POSCA PRESENTATION OF THE PROPERTY OF THE PROP
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Matches
                                                                                        InterPro; IPRO01314; Chymotrypsin.
InterPro; IPRO03014; PAN.
InterPro; IPRO03014; PAN.
InterPro; IPRO03609; Pan app.
InterPro; IPRO0366; ProEhrombin.
InterPro; IPRO03569; Pan Ehrombin.
InterPro; IPRO01254; Ser protease Try.
Pfam; PF00021; kringle; 4.
Pfam; PF00024; PAN; 1.
Pfam; PF00089; trypsin; 1.
Pfam; PF00089; trypsin; 1.
Pfam; PF00012; CHYMOTRYPSIN.
PRINTS; PR00722; CHYMOTRYPSIN.
PRINTS; PR00722; CHYMOTRYBIN.
PRINTS; PR00723; KRINGLE
PRINTS; PR0003095; Kringle; 4.
SMART; SM00130; KR; 4.
SMART; SM00120; TRYPSIN; 1.
SMART; SM00120; TRYPSIN; DOM; 1.
PROSITE; PS00070; KRINGLE 1; 4.
PROSITE; PS50070; KRINGLE 2; 4.
PROSITE; PS50070; KRINGLE 2; 4.
PROSITE; PS50070; KRINGLE 2; 4.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
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P70521;
P70521;
01-FEB-1997 (TrEMBLrel. 02, C
01-FEB-1997 (TrEMBLrel. 02, I
01-MAR-2003 (TrEMBLrel. 23, I
01-MAR-2003 (TREMBLREL 23, I
01
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NON_TER 31:
NON_TER 31:
SEQUENCE 313
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Obshiro K., Iwama A., Matsuno A., Lucasia Obshiro K., Iwama A., Matsuno A., Lucasia Obshiro K., Suda T.;
Takasu N., Suda T.;
"Molecular cloning of Rat Macrophage-stimulating Involvement in the Male Reproductive System.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SMART; SM00130; KR; 1.
SMART; SM00020; Tryp SPC; 1.
PROSITE; PS00021; KRINGLE 1; 1.
PROSITE; PS50070; KRINGLE 2; 1.
PROSITE; PS50240; TRYPSIN DOM; 1.
Glycoprotein; Hydrolase; Kringle;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Glycoprotein;
SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MEDLINE=97011126; PubMed=8858136; Ohshiro K., Iwama A., Matsuno K.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     01-FEB-1997 (TrEMBLrel. 02, Last sequence update)
01-MAR-2003 (TrEMBLrel. 23, Last annotation update)
Macrophage stimulating protein precursor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Rattus norvegicus (Rat).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRINTS; PR01505; PROTHROMBIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         N
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Similarity 53.0%;
44; Conservative 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NGPWCYTMNPRKLFDYCDIPLCA 84
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SDCYHGNGELYRGHTSKTRKGVTCQKWSEQSPH-VPQISPTTHPAAHLDENYCRNPDNDS
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716 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        313 AA; 34793 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             313
                                 Hydrolase; Kringle; Protease; Serine protease; Signal.
1 31 POTENTIAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Kringle;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Chordata;
Rodentia;
80733 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               10;
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Pred. No. 2.1e
10; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Craniata; Vertebrata; Euteleostomi; Sciurognathi; Muridae; Murinae; Rat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRT;
06B7DF3EF56D921F CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8E084704958B5AA2 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     e 246.5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Protease;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DOMAINS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 716
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               protein and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
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                                                                                                                              Query Match
Best Local S
Matches 41
                                                                                                                                                                                           InterPro; IPR003609; Pan app.

InterPro; IPR001254; Ser_protease_Try.

R InterPro; IPR001254; Ser_protease_Try.

R Pfam; pF00021; kringle; 4.

R Pfam; pF00029; trypsin; 1.

R Pfam; pF00089; trypsin; 1.

R PRINTS; PR000139; Kringle; 4.

R ProDom; pD000395; Kringle; 4.

R ProDom; pD000395; Kringle; 4.

R SMART; SM00473; PAN AP; 1.

R SMART; SM00473; PAN AP; 1.

R SMART; SM00020; Tryp SPC; 1.

R PROSITE; PS00021; KRINGLE 1; 4.

R PROSITE; PS00021; KRINGLE 2; 4.

R PROSITE; PS50070; KRINGLE 2; 4.

R PROSITE; PS50070; KRINGLE 3; 4.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local S
Matches 40
                                                                                                                                                                                                                                                                                                                                                                                                                                                             "Early expression of zebrafish Hepatocyte Growth Factor-Like suggests a conserved role in vertebrate neural induction.";
Submitted (APR-2001) to the EMBL/GenBank/DDBJ databases.
C -!- SIMILARITY: BELONGS TO PEPTIDASE FAMILY $1.
C -!- SIMILARITY: CONTAINS 4 KRINGLE DOMAINS.
R EMBL; AF370035; AAK54207.1; -.
R HSSP; P00761; 1AN1.
R ZFIN; ZDB-GENE-020806-3; mst1.
R InterPro; IPR001314; Chymotrypsin.
R InterPro; IPR001314; Chymotrypsin.
R InterPro; IPR00101; Kringle.
R InterPro; IPR003014; PAN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Q90ZN6;
Q90ZN6;
01-DEC-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Brachydanio rerio (Zebrafish) (Danio rerio).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Actinopterygii; Neopterygii; Teleostei; Ostariophysi; Cypriniformo
Cyprinidae; Danio.
NCBI_TaxID=7955;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Hepatocyte growth MST1 OR HGFL1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       01-DEC-2001 (TrEMBLrel. 19, Created)
01-DEC-2001 (TrEMBLrel. 19, Last seq
01-MAR-2003 (TrEMBLrel. 23, Last ann
Hepatocyte growth factor-like 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Bassett D.I., Wilson S.W.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.
 168
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          436
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                                                                                                                                41;
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                           PMCALWNBERTEDACDIBTC
                                                                 CIVGKGEDYRGKVSTTTSGRTCQQWWSKFPHDHRWTPSATN--
                                                                                      CMFGNGKGYRGKKATTVTGTPCQEWAAQEPHRHSTFIPGTNKWAGLEKNYCRNPDGDING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            HGPWCYTLDPETLFDYCALKRC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NGPWCYTMNPRKLFDYCDIPLC 83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EGCYHGSGEQYRGSVSKTRKGVQCQHWSSETPHK-PQFTPTSAPHAGLEANFCRNPDGDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             QDCMFGNGKGYRGKKATTVTGTPCQEWAAQEPHRHSTFIPGTNKWAGLEKNYCRNPDGDI
 PWCYTTDPERRYESCNIPQC
                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRELIMINARY;
                                                                                                                              47.3%; Score 240.5;
51.2%; Pred. No. 2.6;
tive 12; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          47.9%; Score 243.5; DB 1
48.8%; Pred. No. 1.2e-19;
tive 14; Mismatches 27
 187
                                83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRT;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         annotation update)
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                                                                                                                                .6e-19;
es 24;
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                                                                                                                                                                 DB 13;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DB 11;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Factor-Like
                                                                                                                                                               Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length
                                                                   -GLELNYCRNPDGDRIG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Cypriniformes;
                                                                                                                                                                 709;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             716;
                                                                                                                                ω,
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                                                                                                                                Gaps
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                                                                   167
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RESULT

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Q2839
ID Q2839
AC Q2839
AC Q2839
AC Q2839
OT 01-WC
DT 01-WC
DT 01-WC
DT APOLI
OS Erina
OC Eukaa
OC Euka
OC Mamma
OC Mamma
OC NCBI
RN [1]
RN [1]
RP SEQUI
RC TISSI
RX MEDL:
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Best Local S
Matches 40
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R Pfam; PF00089; trypsin; 1.

R PFINTS; PR00722; CHYMOTRYPSIN.

R PRINTS; PR00130; KRINGLE.

R PRINTS; PR01505; PROTHROMBIN.

R PTODOm; PD000395; Kringle; 4.

R SMART; SM00130; KR; 4.

R SMART; SM00473; PAN AP; 1.

R SMART; SM000473; PAN AP; 1.

R SMART; SM000473; FAN AP; 1.

R PROSITE; PS00021; KRINGLE 1; 4.

R PROSITE; PS50070; KRINGLE 2; 4.

R PROSITE; PS50240; TRYPSIN DOM; 1.

R PROSITE; PS50240; TRYPSIN DOM; 1.

R Glycoprotein; Hydrolase; Kringle; Protease; Serine protease.

Glycoprotein; Hydrolase; Kringle; Protease; CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    O91XG8
PKBLILL

Q91XGB;

O91XGB;

O1-DEC-2001 (TrEMBLrel. 19, Created)

O1-DEC-2001 (TrEMBLrel. 19, Last sequence update)

O1-MAR-2003 (TrEMBLrel. 23, Last annotation update)

O1-MAR-2003 (TrEMBLrel. 24, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                             Q28398
Q28398;
Q1-NOV-1996
TISSUE=Liver;
MEDLINE=96055778; PubMed=7592597;
Lawn R.M., Boonmark N.W., Schwart
                                                                                                                                                                                      Erinaceus europaeus (Western European hedgehog).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Insectivora; Erinaceidae; Erinaceinae; Erinaceus.
                                                                                                                                                                                                                                                                                                    01-NOV-1996 (TrEMBLrel. 01, Created)
01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
01-MAR-2003 (TrEMBLrel. 23, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 InterPro; IPR003609; Pan app.
InterPro; IPR003966; Prochrombin.
InterPro; IPR001254; Ser protease_Try.
Pfam; PF00051; kringle; 4.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      -|- SIMILARITY: CONTAINS 4 KRINGLE DOMAINS.
EMBL; BC010551; AAH10551.1; -
HSSP; P00761; 1AN1.
MGD; MGI:96080; Hgfl.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Eukaryota; Metazoa;
Mammalia; Eutheria;
NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Submitted
                                                                                                     SEQUENCE FROM N.A.
                                                                                                                                                        NCBI_TaxID=9365
                                                                                                                                                                                                                                                                         Apolipoprotein(a) (Fragment)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Strausberg R.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     InterPro; IPR001314; Chymotrypsin.
InterPro; IPR000001; Kringle.
InterPro; IPR003014; PAN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FISSUE=Liver;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      377
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          62 NGPWCYTMNPRKLFDYCDIPLC 83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  40;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2 QDCMFGNGKGYRGKKATTVTGTPCQEWAAQEPHRHSTFIPGTNKWAGLEKNYCRNPDGDI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     HGPWCYTLDPDILFDYCALQRC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EGCYHGSGEQYRGSVSKTRKGVQCQHWSSETPHK-PQFTPTSAPQAGLEANFCRNPDGDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (JUL-2001) to the EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                           PRELIMINARY;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               48.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       47.1%; Score 239.5;
                 Schwartz K.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ; Pred. No. 3.46
14; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Craniata; Vertebrata; Euteleostomi; Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                           PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        457
                                                                                                                                                                                                                                                                                                                                                                                                                           2869
                 Lindahl G.E.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1.4e-19;
nes 27;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DB 11;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length
                 Wade D.P.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         435
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Best Local
Query Match
Best Local Similarity
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                                                                             Pfam; PF00024; PAN; 1.
Pfam; PF00024; PAN; 1.
Pfam; PF00089; trypsin; 1.
ProDom; PD000395; Kringle; 4.
SMART; SM00130; KR; 4.
SMART; SM00130; KR; 4.
SMART; SM00020; Tryp_SPc; 1.
PROSITE; PS00021; KRINGLE 1; 3.
PROSITE; PS00021; KRINGLE 2; 4.
PROSITE; PS00020; KRINGLE 2; 4.
PROSITE; PS00020; TRYPSIN_DOM; 1.
Glycoprotein; Hydrolase; Kringle; Protease; Serine protease.
Glycoprotein; Hydrolase; Kringle; Protease; Serine CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (13208 PRELIMINARY; PRT; 567 AA.
(13208; O1-NOV-1996 (TrEMBLrel. 01, Created)
(01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
(01-MAR-2003 (TrEMBLrel. 23, Last annotation update)
Hepatocyte growth factor-like protein homolog.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 InterPro; IPR000001; Kringle.
Pfam; PF00051; kringle; 31.
PRINTS; PR00018; KRINGLE.
ProDom; PD000395; Kringle; 31.
SMART; SM00130; KR; 31.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.
MEDLINE=20191171; PubMed=10728827;
Degen S.J.F., McDowell S.A., Waltz S.E.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     InterPro; IPR000001; Kringle.
InterPro; IPR003014; PAN.
InterPro; IPR001254; Ser protease_Try.
Pfam; PF00051; kringle; 4.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Glycoprotein; Kringle; Lipoprotein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EMBL; U33170; AAC48522.1; -. HSSP; P00747; 1PMK.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          hedgehog apolipoprotein(a).";
J. Biol. Chem. 270:24004-24009(1995)
-|- SIMILARITY: CONTAINS 31 KRINGLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Byrne C.D.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 EMBL; U28054; AAC63092.1; HSSP; P00747; 2PK4.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DNA Seq. 8:409-413(1998).
-!- SIMILARITY: CONTAINS 4 KRINGLE DOMAINS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Homo sapiens (Human)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MEROPS; S01.977;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3yrne C.D., Fong K.J., Meer K., Patthy L.;
"The recurring evolution of lipoprotein(a). Insights from cloning
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         identity to the chromosome
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         "Structure of the human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        like protein.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2 QDCMFGNGKGYRGKKATTVTGTPCQEWAAQEPHRHSTFIPGTNKWAGLEKNYCRNPDGDI
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NGPWCYTMNPRKLFDYCDIPLCASS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EQCLEGNGENYQGNWAITVSGQPCQGWRKQTPHRHE-YTPENYPSKNIFGNYCRNPDGEI 2647
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2869 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               47.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         318601 MW;
46.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         D1F15S1A locus: a chromosome 1 locus with 97%
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InterPro; IPR001254; Ser_protease_Try.
Pfam; PF00051; kringle; 4.
Pfam; PF00024; PAN; 1.
Pfam; PF00024; PAN; 1.
Pfam; PF00089; trypsin; 1.
PRINTS; PR000722; CHYMOTRYPSIN.
PRINTS; PR00018; KRINGLE.
PRODOM; PD0000395; Kringle; 4.
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O1-NOV-1996 (TrEMBLrel. 01, Created)
O1-NOV-1996 (TrEMBLrel. 01, Last sequence update)
O1-MAR-2003 (TrEMBLrel. 23, Last annotation update)
O1-MAR-2003 (TrEMBLrel. 23, Last annotation update)
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SMART; SM00130; KR; 4.

SMART; SM0020; TAYP SPC; 1.

SMART; SM00020; TXP SIGNED: 1; 4.

PROSITE; PS00001; KRINGLE 1; 4.

PROSITE; PS50070; KRINGLE 2; 4.

PROSITE; PS50070; TRYPSIN DOM; 1.

Clycoprotein; Hydrolase; Kringle; Protease; Serine protease.

SEQUENCE 710 AA; 81487 MW; 5FE6480BE31C27FC CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MEDLINE=95267690; PubMed=7748783;
MEDLINE=95267690; PubMed=7748783;
Makamura H., Tashiro K., Nakamura T., Shiokawa K.;
Molecular cloning of Xenopus HGF cDNA and its expression studies in Xenopus early embryogenesis ";
Xenopus early embryogenesis ";
Mech. Dev. 49:123-131(1995).
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Amphibia; Batrachia; Anura; Mesobatrachia; Pipoidea; Pipidae;
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InterPro; IPR000001; Kringle.
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                                                            172 GGPWCFTKSPEVRHDVCDIPFCS 194
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                                                                                                                        113 RDCIHGKGSNYRGTRNVTKRGLACOPWNSMIPHEHS-FLPSTYRGKDLKENYCRNPKGEE 171
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                                                                                         62 NGPWCYTMNPRKLFDYCDIPLCA 84
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                                                                                                                                          2 QDCMFGNGKGYRGKKATTVTGTPCQEWAAQEPHRHSTFIPGTNKWAGLEKNYCRNPDGDI 61
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47.0%; Pred. No. 5.8e-19;
tive 12; Mismatches 31; Indels 1;
             2004, 17:25:37
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ALIGNMENTS

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XX I AAY72947; Human apolipoprotein(a) kringle domain V38, LK8 protein. 13-JUN-2001 AAY72947 standard; Protein; (first entry) 86 ₽

Human; angiogenesis inhibitor; LKB; apolipoprotein(a) kringle domain; angiogenesis-mediated disease; cancer; rheumatoid arthritis; therapy; cytostatic; antirheumatic; antiarthritic; antipsoriatic; psoriasis; ocular angiogenic disease; endothelial cell proliferation; tumour; cell migration. 22-MAR-2001. WO200119868-A1 (MOGA-) 15-SEP-1999; 15-SEP-1999; Homo sapiens. MOGAM BIOTECHNOLOGY RES INST. 99WO-KR00554 99WO-KR00554

WPI; 2001-244787/25. N-PSDB; AAD03258.

Chang J,

Kim JS, Park EJ,

Yum J, Chung

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Novel angiogenesis inhibitor, LK68 for treating angiogenesis-mediated diseases, e.g. cancer and rheumatoid arthritis, has human apolipoprotein(a) kringle domains IV36, IV37 and V38 amino acid

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This sequence represents the kringle 5 domain of human apolipoprotein (apo(a)), which was used to generate monoclonal antibodies. Apo(a) is characteristic glycoprotein component of lipoprotein(a) (Lp(a)), which
                                                                                                                                                                                                                                                                                                                              Apolipoprotein A; apo(a); glycoprotein; heart disease; detection; diagnosis.
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                                                     Disclosure;
                                                                                         New methods for measuring concentrations
                                                                                                                                              Kundu
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                                                                                                                                            Ziemann R;
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                                                   Page 68;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                 (first entry
                                                                                                                                                                                                  98US-0072924
                                                                                                                                                                                                                           99WO-US01211.
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                                                     71pp; English.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 508; DB 2
Pred. No. 1e-42;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           86
                                                                                           of lipoprotein(a) in a plasma
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Lp(a) and LDL are both associated with premature coronary heart disease.

Increased Lp(a) concentrations may inhibit fibrinolysis by reducing the generation of plasmin. This may be effected by competition for plasminogen cell-surface receptors, by inhibition of activation of plasminogen, or by competition for binding sites on fibrin. Anti-apo(a) antibodies can be used in a novel method of Lp(a) quantitation. Such antibodies are not cross-reactive with plasminogen, LpL, and the various types of apo(a) kringle 4 domains. Previous methods of Lp(a) immunoassay used antibodies that bind to the apo(a) kringle 4 domain, which is present in multiple copies. One method, TERUMO ELISA (enzyme-linked immunoarbent assay), tended to produce erroneous results with cardiac and diabetic patients, especially those with very high Lp(a) concentrations (greater than 50 mg/dL). Apo(a) monoclonal antibodies may serve as accurate markers for the detection and diagnosis of heart
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local S
Matches 86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Human; angiogenesis inhibitor; LK68; apolipoprotein(a) kringle domain angiogenesis-mediated disease; cancer; rheumatoid arthritis; therapy; cytostatic; antirheumatic; antiarthritic; antipsoriatic; psoriasis; ocular angiogenic disease; endothelial cell proliferation; tumour;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Human angiogenesis inhibitor, LK68 protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence
                                                      15-SEP-1999;
                                                                                                            15-SEP-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Key
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAY72944 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    is not found in the otherwise identical low density lipoprotein (LDL).
                                                                                                                                                                                                                         WO200119868-A1
     (MOGA-) MOGAM BIOTECHNOLOGY RES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                w
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                                                            99WO-KR00554
                                                                                                               99WO-KR00554.
                                                                                                                                                                                                                                                                                                                                                               protein"
223..308
                                                                                                                                                                                                                                                                            /note= "Apolipoprotein(a) kringle domain V38, protein"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   protein"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                   /label= KIV37
/note= "Apolipoprotein(a)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /note= "Apolipoprotein(a) kringle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /label= KIV36
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               19..207
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Pred. No. 1.1e-42;
; Mismatches 0;
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RESULT 4
AAR22504
AD AAR2
XX AAR2
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DT 09-J
DT 25-A
XX Plas
KW Plas
KW Fibr
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Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          The present sequence is human angiogenesis inhibitor, LK68 protein.

LK68 protein contains the amino acid sequences of human applipoprotein(a) kringle domains IV36 (LK6 protein), IV37 (LK7 protein) and V38 (LK8 protein). LK68, LK6, LK7 and LK8 are inhibitors are of endothelial cell proliferation, cell migration and normal development of capillaries in the chick embryo chorioallantoic membrane (CAM). LK68 protein, its single kringles or their functional equivalents, are useful for treating angiogenesis-mediated diseases, such as cancer, rheumatoid arthritis, psoriasis or ocular angiogenic disease in animals or humans.

LK68 is useful as an anticancer agent and also for inhibiting primary
 01-SEP-1990;
                              29-AUG-1991;
                                                                                           WO9204450-A
                                                                                                                                       Cleavage-site
                                                                                                                                                                     Region
                                                                                                                                                                                                    Region
                                                                                                                                                                                                                                                                               Homo
                                                                                                                                                                                                                                                                                                                                                                                        09-JAN-2003
25-AUG-1992
                                                                                                                                                                                                                                                                                                                                                                                                                                       AAR22504;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAR22504 standard; Protein; 380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Novel angiogenesis inhibitor, LK68 for treating angiogenesis-mediated diseases, e.g. cancer and rheumatoid arthritis, has human apolipoprotein(a) kringle domains IV36, IV37 and V38 amino acid
                                                                                                                                                                                                                                                                                                              fibrinolysis;
                                                                                                                                                                                                                                                                                                                         Plasminogen; urokinase-like plasminogen activator; hybrid;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Claim 4; Page 42-44; 50pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  tumour growth.
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                                                                                                                                                                                                                                                                                                                                                         [GARSYQ]-[Plasminogen 443-541]-[u-PA 137-411] hybrid.
                                                                                                                                                                                                                                                                               sapiens
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    308
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Conservative
                                                                                                                                                                                                                                                                                                                                                                                      (updated)
(first entry)
                                                                                                                                                                                                                                                                                                            blood clotting; acute myocardial infarction.
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 90GB-0019120
                                91WO-GB01455
                                                                                                                                       126..127
                                                                                                                                                                                                                  /note= "amino acids -3 to +3 of t-PA"
                                                                                                                                                                                                                                                 Location/Qualifiers
                                                                                                                                                                       106..380
                                                                                                                                                                                    'note= "amino
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Park
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     100.0%;
                                                                                                                                                       "amino acids 137-411 of u-PA"
                                                                                                                          "u-PA cleavage site"
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Pred. No. 3.5
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.5e-42;
s 0;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length
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XX Plas [GAR
XX Plas KW Fibr
XX FFH Key
FFH Regin
FT Regin
FT Regin
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XX W092
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Best Local
                                                                        01-SEP-1990;
                                                                                                                                                                                                                                                                                                Cleavage-site
                                                                                                                                                                                                                                                                                                                                                 Region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Plasminogen;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      09-JAN-2003
25-AUG-1992
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAR22503;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    This hybrid plasminogen/u-PA sequence is described in the specification although the sequence itself is not given. The sequence given here has been compiled using the human plasminogen sequence from Patent No. WO9013640 and the human u-PA sequence from the SWISSPROT database (UROX$HUMAN). The hybrid fibrinolytic enzymes are useful in the treatment of thrombotic diseases. See also R22499, R22502 and R22503.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Hybrid plasminogen activators for treating thrombotic diseases comprise Kringle 5 or Kringles 4 and 5 of plasminogen linked to B-chain of t-PA or u-PA via aminoacid sequence
                                                                                                                                                                           19-MAR-1992
                                                                                                                                                                                                                          WO9204450-A
                                                                                                                                                                                                                                                                                                                                                                                                Region
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            fibrinolysis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAR22503 standard;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     [GARSYQ]-[Plasminogen 347-541]-[u-PA 137-411]
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            on 09-JAN-2003 to add missing OS field.)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             380 AA;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   urokinase-like plasminogen activator; hybrid;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (updated)
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                                                                                                                          91WO-GB01455
                                                                                                                                                                                                                                                                                                                                                                                                                          /note= "amino acids -3 to +3 of t-PA'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Location/Qualifiers
                                                                                                                                                                                                                                                                           note=
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                                                                                                                                                                                                                                                                                                                                                                           'note= "amino acids 347-541 of plasminogen"
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                                                                                                                                                                                                                                                                         "u-PA cleavage site"
                                                                                                                                                                                                                                                                                                                          "amino acids 137-411 of u-PA"
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Pred. No. 1.3e-34;
6; Mismatches 9
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                This hybrid plasminogen/u-PA sequence is described in the specification although the sequence itself is not given. The sequence given here has been compiled using the human plasminogen sequence from Patent No. WO9013640 and the human u-PA sequence from the SWISSPROT database (UROKSHUMAN). The hybrid fibrinolytic enzymes are useful in the treatment of thrombotic diseases. See also R22499, R22502 and R22504.

(Updated on 09-JAN-2003 to add missing OS field.)
                                                                                 Producing angiostatin for treating angiogenic diseases involves contacting plasminogen with plasminogen activator and sulfhydry simultaneously, or producing plasmin which is contacted with su
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Angiostatin; plasminogen; sulfydryl donor; angiogenesis; tumour; angiogenic disease; neoplastic disease; connective tissue disorder; rheumatoid arthrittis; atherosclerosis; ocular angiogenic disease; diabetic retinopathy; corneal graft rejection; cardiovascular disease; cerebral vascular disease; diabetes; immune disorder;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Claim
                                                                                                                                                                                                                                                               Soff G,
                                                                                                                                                                                                                                                                                                                                                                                 08-FEB-2000; 2000US-0500397.
                                                                                                                                                                                                                                                                                                                                                                                                                                       08-FEB-2001; 2001WO-US04021.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                16-AUG-2001.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Macaca mulatta.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Amino acid sequence of monkey plasminogen.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    13-NOV-2001
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                                                                                                                                                                                                         WPI; 2001-550019/61.
                                                                                                                                                                                                                                                                                                                        (NOUN )
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WO200158921-A2
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   179 VGGPWCYTTNPRKLYDYCDVPQCPSS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               119 EEDCMFGNGKGYRGKRATTVTGTPCQDWAAQEPHRHSIFTPETNPRAGLEKNYCRNPDGD
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 EQDCMFGNGKGYRGKKATTVTGTPCQEWAAQEPHRHSTFIPGTNKWAGLEKNYCRNPDGD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     inflammation; autoimmunity
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82.6%;
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Pred. No. 1.7e-34;
6; Mismatches 9;
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Disclosure;

Page

90-93; 101pp; English

Preparation of Kringle five peptide fragment for treating various disorders such as angiogenic, ocular, skin diseases and cancer, involves mixing mammalian plasminogen and elastase followed by

The invention relates to a method of preparing plasminogen kringle 5 peptide fragments. The method comprises mixing mammalian plasminogen and elastase in the ratio 1:100-1:300, followed by incubating and isolating

Example 17; Page -; 48pp; English

incubation and isolation

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ARBOLIT ARBOLI
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Plasminogen; human; kringle domain; endothelial cell proliferation; angiogenesis; antiproliferative; antiarteriosclerotic; cytostatic; antipsoriatic; antiinflammatory; antillcer; antirheumatic; antiarthritic;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Human plasminogen kringle 5 (Val454-Ala543).
                                                                                                                                                                                                                                                                                                                                      WPI; 2000-349573/30.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    03-MAY-1996;
03-APR-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            05-MAY-1997;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  antiangiogenic; cancer; tumour; autoimmune disease.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EQDCMFGNGKGYRGKKATTVTGTPCQEWAAQEPHRHSTFIPGTNKWAGLEKNYCRNPDGD
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97US-0832087.
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83.7%;
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Pred. No. 2.8e-34;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Matches
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                                                                                                                                                                                                                                                          New soluble derivative of anti-angiogenic polypeptide useful for treatment of primary or secondary cancers, contains covalently a membrane-binding elements for targeting -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                16-JUL-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  27-JAN-2000
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Human plasminogen mature polypeptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      08-MAY-2000 (first entry
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Anti-angiogenic; angiogenesis inhibitor; cancer; tumour; therapy;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (ADPR-) ADPROTECH PLC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         99
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Bright JR,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          98GB-0015505
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                99WO-GB02292.
                                                                                                                                                                        21; 36pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Protein;
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Pred. No. 5
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The present sequence is that of human plasminogen mature polypeptide. The invention relates to new soluble derivatives of anti-anglogenic polypeptides. (I) comprise 2 or more

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RESULT 9
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         low membrane affinity that are covalently attached to a soluble anti-angiogenic polypeptide such as a non-catalytic region of human plasminogen. The MBEs interact independently with thermodynamic additivity, with components of the vascular endothelium. (I) provide targeted delivery of the anti-angiogenic polypeptide to cell membranes and sites of active angiogenesis, particularly the vascular endothelium, and therefore increase the local concentration and reduce the risk of adverse effects on normal processes elsewhere in the vasculature. They are used in a claimed method of treatment of primary or secondary tumour.
The invention relates to a method of preparing plasminogen kringle 5 peptide fragments. The method comprises mixing mammalian plasminogen and elastase in the ratio 1:100-1:300, followed by incubating and isolating the fragment. The kringle 5 peptides are inhibitors of angiogenesis and endothelial cell proliferation and migration. The peptides are useful for treating angiogenic diseases, primary and metastatic solid tumours and carcinomas of various organs such as breast, genital tract,
                                                                                                                                                                      Preparation of Kringle five peptide fragment for treating vario disorders such as angiogenic, ocular, skin diseases and cancer, involves mixing mammalian plasminogen and elastase followed by
                                                                                                                             Example
                                                                                                                                                                                                                                         WPI;
                                                                                                                                                                                                                                                                      Davidson DJ
                                                                                                                                                                                                                                                                                                                                    03-MAY-1996;
03-APR-1997;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            antiangiogenic;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             angiogenesis; antiproliferative; antiarteriosclerotic; cytostatic;
antipsoriatic; antiinflammatory; antiulcer; antirheumatic; antiarthritic;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Plasminogen; human; kringle domain; endothelial cell proliferation;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Human plasminogen kringle 5 (Val454-Phe546).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAB01917 standard; Protein;
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                                                                                                                                                        incubation and isolation
                                                                                                                                                                                                                                                                                                      (ABBO ) ABBOTT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      VGGPWCYTINPRKLYDYCDVPQCAA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 91 AA;
                                                                                                                          Page -; 48pp;
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                                                                                                                                                                                                                                                                                                                                     96US-0643219.
97US-0832087.
                                                                                                                                                                                                                                                                                                                                                                                   97US-0851350
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               cancer; tumour;
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82.4%;
                                                                                                                           English.
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Pred. No. 5.1e-35;
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Best Local S
Matches 70
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Note: This sequence is not shown in the specification, but is derived from the full length human plasminogen sequence (AAB01887) shown in
                                                                                         Preparation of Kringle five peptide fragment for treating various disorders such as anglogenic, ocular, skin diseases and cancer, involves mixing mammalian plasminogen and elastase followed by incubation and isolation -
                                                                                                                                                                                                                                                                                                                                                                                                                                                   Plasminogen; human; kringle domain; endothelial cell proliferation; angiogenesis; antiproliferative; antiarteriosclerotic; cytostatic; antipsoriatic; antiinflammatory; antiulcer; antirheumatic; antiarthritic;
                                                                                                                                                                                                                                                                 03-MAY-1996;
03-APR-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAB01913 standard; Protein;
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                                                                                                                                                                      WPI; 2000-349573/30
                                                                                                                                                                                                                                                                                                               05-MAY-1997;
                                                                                                                                                                                                                                                                                                                                             02-MAY-2000
                                                                                                                                                                                                                                                                                                                                                                            US6057122-A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           figure
                                                                                                                                                                                                                                    (ABBO ) ABBOTT
                                                                                                                                                                                                                                                                                                                                                                                                        Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61 INGPWCYTMNPRKLFDYCDIPLCAS 85
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 EQDCMFGNGKGYRGKKATTVTGTPCQEWAAQEPHRHSTFIPGTNKWAGLEKNYCRNPDGD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 70;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         VGGPWCYTTNPRKLYDYCDVPQCAA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               93 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                96US-0643219.
97US-0832087.
                                                                                                                                                                                                                                                                                                               97US-0851350
                                                                                                                                                                                                                                                                                                                                                                                                                                        cancer; tumour; autoimmune disease.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   kringle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              84.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   5 (Val449-Ala543).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 95
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 430; DB 21;
Pred. No. 5.3e-35;
7; Mismatches 8;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           90
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
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The invention relates to a method of preparing plasminogen kringle 5 peptide fragments. The method comprises mixing mammalian plasminogen and elastase in the ratio 1:100-1:300, followed by incubating and isolating

Example 17; Page -; 48pp; English

Example 17; Page -; 48pp;

English

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RESULT 11
AABO1916
ID AABO1
XX AABO1
XX AABO1
XX IN-SE
XX Plasm
KW Plasm
KW Antip
XX Plasm
KW Antip
XX Plasm
XX Plasm
XX O2-MA
PR 03-MA
PR 03-MA
PR 03-AP
PI OAVID
XX DAVID
XX DAVID
XX Prepa
PT disox
PT incub
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CC endothelial cell proliferation and migration. The peptides are useful CC for treating angiogenic diseases, primary and metastatic solid tumours CC and carcinomas of various organs such as breast, genital tract, CC andocrine glands, skin, tumours of the brain and eyes and solid tumours CC lymphomas. They are also used for the prophylaxis of various autoimmune CC lymphomas. They are also used for the prophylaxis of various autoimmune CC diseases (e.g., rheumatoid arthritis), ocular diseases, skin diseases (e.g., psoriasis), blood vessel diseases (e.g. haemangiomas, Osler-Webber CC (e.g., psoriasis), blood vessel diseases (e.g. haemangiomas, Osler-Webber CC syndrome), diseases caused by excessive or abnormal stimulation of CC which have angiogenesis as a pathologic consequence (e.g., cat scratch CC disease and ulcers). The peptides are also useful as a birth control CC disease habologic—souls in an exemplification of the intention.

CC Sequences AABO1906-B01919 represent fragments of human plasminogen used of the placenta.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local S
Matches 70
                                                                                                                                                                                                                                                                                                                                                                                                                                   plasminogen; human; kringle domain; endothelial cell proliferation;
angiogenesis; antiproliferative; antiarterioscelerotic; cytostatic;
antipsoriatic; antinflammatory; antiulcer; antirheumatic; antiarthritic;
antiangiogenic; cancer; tumour; autoimmune disease.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence
                                 Preparation of Kringle five peptide fragment for treating various disorders such as angiogenic, ocular, skin diseases and cancer, involves mixing mammalian plasminogen and elastase followed by incubation and isolation -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Human plasminogen kringle 5 (Val449-Phe546).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAB01916 standard;
                                                                                                                                                                Davidson DJ
                                                                                                                                                                                                                                     03-MAY-1996;
03-APR-1997;
                                                                                                                                                                                                                                                                                         05-MAY-1997;
                                                                                                                                                                                                                                                                                                                            02-MAY-2000
                                                                                                                                                                                                                                                                                                                                                                US6057122-A
                                                                                                                                                                                                                                                                                                                                                                                                                                 antiangiogenic; cancer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              18-SEP-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Note: This sequence is not shown in the specification, from the full length human plasminogen sequence (AABO
                                                                                                                                                                                                 (ABBO ) ABBOTT
                                                                                                                                                                                                                                                                                                                                                                                               sapiens.
                                                                                                                            2000-349573/30.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            INGPWCYTMNPRKLFDYCDIPLCAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            VGGPWCYTTNPRKLYDYCDVPQCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 EEDCMFGNGKGYRGKRATTVTGTPCQDWAAQEPHRHSIFTPETNPRAGLEKNYCRNPDGD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EQDCMFGNGKGYRGKKATTVTGTPCQEWAAQEPHRHSTFIPGTNKWAGLEKNYCRNPDGD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           95
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (first entry)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   The kringle 5 peptides are inhibitors of angiogenesis and
                                                                                                                                                                                                   LAB.
                                                                                                                                                                                                                                     96US-0643219.
97US-0832087.
                                                                                                                                                                                                                                                                                         97US-0851350
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   84.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 430; DB 21;
Pred. No. 5.4e-35;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            95
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              85
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (AAB01887)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           95
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
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(dA)

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AAW34286
AAW AAW3
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XX
XX
AC AAW3
AC 
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Syndrome), diseases caused by excessive or abnormal stimulation of endothelial cells (e.g., Crohn's disease, atherosclerosis), diseases which have angiogenesis are the consequence (e.g., cat scratch disease and ulcers). The peptides are also useful as a birth control agent which inhibits ovulation and establishment of the placenta. Sequences AAB01906-B01919 represent fragments of human plasminogen used
                                                                                                                                                                                                                                                            03-APR-1997;
03-MAY-1996;
                                                                                                                                                                                                                                                                                                                                                          05-MAY-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Plasminogen; human; Kringle 5 peptide; anti-angiogenesis agent; cance metastatic solid tumour; carcinoma; sarcoma; lymphoma; haemangioma; psoriasis; arthritis; macular degeneration; diabetic retinopathy; autoimmune disease; ocular disease; capillary proliferation; therapy;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Human kringle 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              14-MAY-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAW34286 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence
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Note: This sequence is not shown in the specification, but is deriften the full length human plasminogen sequence (AAB01887) shown
New kringle 5 peptide(s) and fusion proteins derived from
                                                            WPI; 1997-558670/51.
                                                                                                                                                                                                                                                                                                                                                                                                                      13-NOV-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WO9741824-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  kringle 5
                                                                                                                                                                                            (ABBO ) ABBOTT LAB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         13
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                                                                                                                            2
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     INGPWCYTMNPRKLFDYCDIPLCAS 85
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EEDCMFGNGKGYRGKRATTVTGTPCQDWAAQEPHRHSIFTPETNPRAGLEKNYCRNPDGD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            VGGPWCYTTNPRKLYDYCDVPQCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 98 AA;
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                                                                                                                            Gubbins
                                                                                                                                                                                                                                                        97US-0832087.
96US-0643219.
                                                                                                                                                                                                                                                                                                                                                      97WO-US07700.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               peptide fragment.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           protein; 101 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   84.6%;
                                                                                                                            ը,
                                                                                                                            Wang
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 430; DB 21;
Pred. No. 5.5e-35;
7; Mismatches 8
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  cancer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        60
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RESULT 13
AAB01890
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 joints, wound granulation, ulcers etc., also as contraceptives that inhibit ovulation and establishment of the placenta. K5 antisers or (ant)agonists can be used similarly, optionally coupled to cytotoxic agents. Antagonists may be used to induce angiogenesis, e.g. for woun healing. The K5 peptides are also used to raise specific antibodies (for diagnosis and for affinity purification of K5 receptors. The K5 receptors may then be expressed in tumour cells to increase their response to the peptides or used for identification of smaller antagonists. The Ab are used to detect/quantify the peptides in biological samples. The K5 peptides (and K5 fusion proteins) selective inhibit proliferation of endothelial cells with low toxicity against normal cells. Typically they have 800-times greater inhibitory activity against bovine capillary cells in vitro than kringle 1-4 peptides.
WPI; 2000-349573/30.
                                                                                                                                                                                                                                                                Homo
                                                                                                                                                                                                                                                                                                                Plasminogen; kringle 5 domain; endothelial cell proliferation; angiogenesis; antiproliferative; antiarteriosclerotic; cytostatic; antipsoriatic; antiinflammatory; antiulcer; antirheumatic; antiarthritic;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         This sequence is a kringle 5 (K5) peptide homologous to human plasminogen. K5 peptide fragments homologous to this sequence, are anti-angiogenesis agents, specifically for treating or preventing cancer, particularly primary or metastatic solid tumours, carcinomas, sarcomas, lymphomas, haemangiomas. They can also be used for treating or preventing psoriasis, arthritis, macular degeneration and diabetic retinopathy. The
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     plasminogen - useful as anti-angiogenesis agents for treating
cancer, psoriasis, arthritis etc., including gene therapy
                                   Davidson DJ;
                                                                                                       03-MAY-1996;
03-APR-1997;
                                                                                                                                                          05-MAY-1997;
                                                                                                                                                                                           02-MAY-2000
                                                                                                                                                                                                                              US6057122-A.
                                                                                                                                                                                                                                                                                                   antiangiogenic;
                                                                                                                                                                                                                                                                                                                                                                                         Human plasminogen kringle 5,
                                                                                                                                                                                                                                                                                                                                                                                                                            18-SEP-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAB01890 standard; Protein; 101 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       fragments can also be used to treat autoimmune or ocular diseases, capillary proliferation within atherosclerotic plaque, haemophiliac
                                                                      (ABBO ) ABBOTT
                                                                                                                                                                                                                                                                sapiens
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 70;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 EQDCMFGNGKGYRGKKATTVTGTPCQEWAAQBPHRHSTFIPGTNKWAGLEKNYCRNPDGD 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EEDCMFGNGKGYRGKRATTVTGTPCQDWAAQEPHRHSIFTPETNPRAGLEKNYCRNPDGD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       101 AA;
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                                                                                                                                                                                                                                                                                                                                                                                                                          (first entry)
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                                                                      LAB.
                                                                                                       96US-0643219
97US-0832087
                                                                                                                                                            97US-0851350.
                                                                                                                                                                                                                                                                                                      cancer; tumour;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  84.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 7; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 430; DB 18;
Pred. No. 5.7e-35;
                                                                                                                                                                                                                                                                                                                                                                                         SEQ ID NO:34.
                                                                                                                                                                                                                                                                                                      autoimmune disease.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 101;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
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Preparation of Kringle five peptide fragment for treating various disorders such as anglogenic, ocular, skin diseases and cancer, involves mixing mammalian plasminogen and elastase followed by incubation and isolation -

Disclosure; Fig 2; 48pp; English

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Matches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          plasminogen; human; kringle domain; endothelial cell proliferation;
angiogenesis; antiproliferative; antiarteriosclerotic; cyrostatic;
antipsoriatic; antiinflammatory; antiulcer; antirheumatic; antiarth
antiangiogenic; cancer; tumour; autoimmune disease.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Syndrome), diseases caused by excessive or abnormal stimulation of endothelial cells (e.g., Crohn's disease, atherosclerosis), diseases which have angiogenesis as a pathologic consequence (e.g., cat scratch disease and ulcers). The peptides are also useful as a birth control agent which inhibits ovulation and establishment of the placenta. Sequences AAB01890-B01894 represent, respectively, human, murine, Rhesus monkey, bovine and porcine plasminogen kringle 5 domains.
                                        Davidson DJ
                                                                                                                                                                                            03-MAY-1996;
03-APR-1997;
                                                                                                                                                                                                                                                                                                             05-MAY-1997;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      antiangiogenic;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Human plasminogen kringle 5 (Val443-Ala543).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAB01912 standard; Protein;
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97US-0832087.
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Pred. No. 5.7e-35;
7; Mismatches 8;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  antiarthritic;
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Sequence

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the fragment. The kringle 5 peptides are inhibitors of angiogenesis and endothelial cell proliferation and migration. The peptides are useful for treating angiogenic diseases, primary and metastatic solid tumours and carcinomas of various organs such as breast, genital tract, endocrine glands, skin, tumours of the brain and eyes and solid tumours arising from haematopoietic malignancies such as leukaemias and ymphomas. They are also used for the prophylaxis of various autoimmune diseases (e.g., rheumatoid arthritis), ocular diseases, skin diseases (e.g., psoriasis), blood vessel diseases (e.g. haemangiomas, Osler-Webber (e.g., psoriasis), blood vessel diseases (e.g. haemangiomas, osler-Webber (e.g., psoriasis), crohn's disease, atherosclerosis), diseases which have angiogenesis as a pathologic consequence (e.g., cat scratch disease and ulcers). The peptides are also useful as a birth control agent which inhibits ovulation and establishment of the placenta.

Sequences AAB01906-B01919 represent fragments of human plasminogen used
                                                                        Sequences AAB01906-B01919 represent fragments of human plasm
in an exemplification of the invention.

Note: This sequence is not shown in the specification, but if the full length human plasminogen sequence (AAB01887)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Example 17; Page -; 48pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Preparation of Kringle five peptide fragment for treating vidisorders such as angiogenic, ocular, skin diseases and candinoolives mixing mammalian plasminogen and elastase followed
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elastase in the ra
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the ratio 1:100-1:300,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      method of preparing plasminogen kringle 5 hod comprises mixing mammalian plasminogen and 0-1:300, followed by incubating and isolating 5 peptides are inhibitors of angiogenesis and
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Ś 맑 Ś Query Match Best Local S Matches 70 77 61 INGPWCYTMNPRKLFDYCDIPLCAS μ Similarity EEDCMFGNGKGYRGKRATTVTGTPCQDWAAQEPHRHSIFTPETNPRAGLEKNYCRNPDGD EQDCMFGNGKGYRGKKATTVTGTPCQEWAAQEPHRHSTF1PGTNKWAGLEKNYCRNPDGD GGPWCYTTNPRKLYDYCDVPQCAA 101 Conservative 84.6%; Score 430; DB 21; Pred. No. 5.7e-35; Mismatches 85 8 Length 101; Indels 0 Gaps 76

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밁
AAB01915 standard; Protein; 104
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Plasminogen; human; kringle domain; endothelial Human plasminogen kringle 5 (Val443-Phe546). cell

18-SEP-2000

(first entry)

RESULT 15
AAB01915
AAB01915
AC AAB01
XX Pluma:
XX Pluma:
XX AAB01
XX AAB01 03-MAY-1996; 05-MAY-1997; US6057122-A Homo sapiens antiangiogenic; angiogenesis; antiproliferative; antiarteriosclerotic; cyto antipsoriatic; antiinflammatory; antiulcer; antirheumatic; 96US-0643219. 97US-0832087. 97US-0851350. cancer; tumour; autoimmune disease proliferation; antiarthritic;

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Search completed: January 12, 2004, 17:23:22 Job time: 35.2707 secs
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CC peptide fragments. The method comprises mixing mammalian plasminogen and
CC elastase in the ratio 1:100-1:300, followed by incubating and isolating
CC the fragment. The kringle 5 peptides are inhibitors of angiogenesis and
CC endothelial cell proliferation and migration. The peptides are useful
CC for treating angiogenic diseases, primary and metastatic solid tumours
CC endocrine glands, skin, tumours of the brain and eyes and solid tumours
CC arising from haematopoietic malignancies such as leukaemias and
CC lymphomas. They are also used for the prophylaxis of various autoimmune
CC diseases (e.g., rheumatoid arthritis), ocular diseases, skin diseases
CC (e.g., psoriasis), blood vessel diseases (e.g. haemangiomas, Osler-Webber
CC Syndrome), diseases caused by excessive or abnormal stimulation of
CC endothelial cells (e.g., Crohn's disease, atherosclerosis), diseases
CC which have angiogenesis as a pathologic consequence (e.g., cat scratch
CC disease and ulcers). The peptides are also useful as a birth control
CC agent which inhibits ovulation and establishment of the placenta.
CC sequences AAB01906-B01919 represent fragments of human plasminogen used
CC in an exemplification of the invention.
CC from the full length human plasminogen sequence (AAB01887) shown in
                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity
Matches 70; Conserv
                                                                                                                                                                                                                                                                                                                                                               Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Preparation of Kringle five peptide fragment for treating various disorders such as angiogenic, ocular, skin diseases and cancer, involves mixing mammallan plasminogen and elastase followed by incubation and isolation -
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                                                                                                                                                                                                                                                                                                                                                                                                       figure 1.
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                                                                                                                  61 INGPWCYTMNPRKLFDYCDIPLCAS 85
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                                                                                          VGGPWCYTTNPRKLYDYCDVPQCAA 101
                                                                                                                                                                                                                                                                                                                                                               104 AA;
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15 US-10-193-656-2

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10S-09-753-064-6

10S-09-788-142-1
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                                 Sequence 1, Appli
Sequence 2, Appli
Sequence 2, Appli
Sequence 1, Appli
Sequence 5, Appli
Sequence 5, Appli
Sequence 6, Appli
Sequence 6, Appli
Sequence 4, Appli
Sequence 4, Appli
Sequence 6, Appli
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Sequence 1
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Sequence 126, App
Sequence 126, App
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-09-981-1	US-10-004-378A-188	-10-131-241-31	-10-402-364-	US-09-335-325-31	0-3	US-10-131-241-36	US-10-402-364-36	US-09-335-325-36	US-09-761-120-36	US-10-131-241-9	US-10-402-364-9	US-09-335-325-9	US-09-761-120-9	US-10-131-241-4	US-10-402-364-4	US-09-335-325-4	US-09-761-120-4	US-09-788-142-4	US-10-402-364-47	US-09-761-120-47	US-10-402-364-46	٩	US-09-753-064-1	41-	10-40		9-873-67	US-09-761-120-1
85	٠.	e 31,	31,	Sequence 31, Appl	31,	36	Sequence 36, Appl	e 36	36,	9	9	Sequence 9, Appli	9, 1	4	4	о 4	Sequence 4, Appli	Sequence 4, Appli	Sequence 47, Appl	.7	e 46,	Sequence 46, Appl	1,	Ļ	۲	e 1,	81,	Sequence 1, Appli

ALIGNMENTS

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APPLICANT: Kundu, S.
APPLICANT: Kundu, S.
APPLICANT: Ziemann, R.
TITLE OF INVENTION: SPECIFIC ANTIBODIES TO KRINGLE 5 OF
TITLE OF INVENTION: APO(A) AND METHODS OF USE THEREFOR
FILE REFERENCE: 6296.US.01
CURRENT APPLICATION NUMBER: US/09/748,468
CURRENT FILING DATE: 2000-12-26
PRIOR APPLICATION NUMBER: 09/234,553
PRIOR APPLICATION NUMBER: 09/234,553
PRIOR PILING DATE: 1999-01-20
NUMBER OF SEQ ID NOS: 1
SOFTWARE: FastSEQ for Windows Version 3.0
SOFTWARE: FastSEQ for Windows Version 3.0
RESULT 2
US-09-870-759-126
; Sequence 126, Application US/09870759
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US-09-748-468-1
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Patent No. US20010051347A1
GENERAL INFORMATION:
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Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                TYPE: PRT
ORGANISM: Homo sapiens
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ilarity 100.0%;
Conservative 0,
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Pred. No. 2e-49;
Mismatches
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                                                                                                                                                          US-09-967-386-1
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; ORGANISM: Homo sapiens
US-09-751-708A-126
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Sequence 1, Application US/09967386
Patent NO. US20020159992A1
GENERAL INFORMATION:
APPLICANT: Abbott Laboratories
APPLICANT: Henkin, Jack
APPLICANT: Davidson, Donald J.
TITLE OF INVENTION: ANTIANGIOCENIC POLYPEPTIDES AND METHODS
TITLE OF INVENTION: FOR INHIBITING ANGIOGENESIS
                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity 100.
86; Conservative
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SEQ ID NO 126
LENGTH: 1169
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APPLICANT: TERMAN, David S
TITLE OF INVENTION: COMPOS:
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SEQ ID NO 126
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Best Local
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CURRENT APPLICATION NUMBER: US/09/870,759
CURRENT FILING DATE: 2002-01-14
PRIOR APPLICATION NUMBER: US 60/208,128
PRIOR FILING DATE: 2000-05-30
NUMBER OF SEQ ID NOS: 166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CURRENT APPLICATION NUMBER: US/09/751,708A CURRENT FILING DATE: 2002-10-15 PRIOR APPLICATION NUMBER: US 60/173,371 PRIOR FILING DATE: 1999-12-28 NUMBER OF SEQ ID NOS: 166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TITLE OF INVENTION: CON
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ORGANISM: Homo sapiens
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100.0%; Pred. No. 3.1e-48;
tive 0; Mismatches 0;
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US-09-967-386-1
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Publication No. US20030083234A1
GENERAL INFORMATION:
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PRIOR FILING DATE: 2000-09-29
NUMBER OF SEQ ID NOS: 7
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 1
LENGTH: 791
TYPE: PRT
                                                                   Sequence 2, Application US/09946893
Patent No. US20020072494A1
GENERAL INFORMATION:
APPLICANT: Cao, Yihai
TITLE OF INVENTION: Materials and methods
TITLE OF INVENTION: Inhibitors
FILE REFERENCE: Mewburn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SOFTWARE: Microsoft Word SEQ ID NO 1
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Best Local
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Best Local
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TITLE OF INVENTION: Anti-angiogenesis methods, compositions and uses therefor
FILE REFERENCE: MEO2-001
CURRENT APPLICATION NUMBER: US/10/304,287
CURRENT FILING DATE: 2002-11-26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRIOR APPLICATION NUMBER: US 60/333,866
PRIOR FILING DATE: 2001-11-28
NUMBER OF SEQ ID NOS: 8
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CURRENT APPLICATION NUMBER: US/09/967,386
CURRENT FILING DATE: 2001-09-26
CURRENT APPLICATION NUMBER: US/09/946,893
CURRENT FILING DATE: 2001-09-05
PRIOR APPLICATION NUMBER: US 60/230,893
PRIOR FILING DATE: 2000-09-05
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LENGTH: 791
TYPE: PRT
ORGANISM: mammalian
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Pred. No. 1.1e-39;
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pred. No. 1.1e-39;
7; Mismatches 8
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                                                                                                            relating to endothelial cell growth
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Publication NO.
GENERAL INFORMATION:
APPLICANT: NY, Tor
APPLICANT: HOLMDAHL, Rikard
APPLICANT: LI, Jinan
ITILE OF INVENTION: NOVEL DRUG TARGETS FOR ARTHRITIS
FILE REFERENCE: 3810/11577-US3
CURRENT APPLICATION NUMBER: US/10/193,656
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US-10-193-656-2
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APPLICANT: LI, Jinan
APPLICANT: HELLSTROM, Sten
APPLICANT: ERIKSSON, Per-Olf
TITLE OF INVENTION: METHOD OF WOUND HEALING
FILE REFERENCE: 3810/10759-US1
CURRENT APPLICATION NUMBER: US/10/237,144
CURRENT FILING DATE: 2002-09-05
PRIOR APPLICATION NUMBER: US 60/317,643
PRIOR FILING DATE: 2001-09-06
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Best Local Similarity
Thas 70; Conserv
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                                                                                                                                                                        Sequence 2, Application US/10193656 Publication No. US20030096733A1
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SOFTWARE: PatentIn version 3.1
SEQ ID NO 1
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SOFTWARE: PatentIn Ver. 2.1
SEQ ID NO 2
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TYPE: PRT
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DATABASE ENTRY DATE: 2000-09-15
RELEVANT RESIDUES: (1)..(810)
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TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                           Local Similarity 82.4 es 70; Conservative
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                                                                                                                                                                                                                                                                                  VGGPWCYTTNPRKLYDYCDVPQCAA 562
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82.4%;
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Pred. No. 1.2e-39;
7; Mismatches 8
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Pred. No. 1.2e-39;
7; Mismatches 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                              DB 12; Length 810;
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APPLICANT: Cao, Yihai
TITLE OF INVENTION: Materials and methods relating to
TITLE OF INVENTION: inhibitors
FILE REFERENCE: Mewburn
CURRENT APPLICATION NUMBER: US/09/946,893
CURRENT FILING DATE: 2001-09-05
PRIOR APPLICATION NUMBER: US 60/230,893
PRIOR APPLICATION NUMBER: US 60/230,893
PRIOR FILING DATE: 2000-09-05
NUMBER OF SEQ ID NOS: 11
SOFTWARE: Patentin Ver. 2.1
SEQ ID NO 5
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                                                                                                                                                               Matches
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                                                                                                                                                                                                    Query Match
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PRIOR TILING DATE: 2001-07-10
PRIOR APPLICATION NUMBER: US 60/304,490
PRIOR FILING DATE: 2001-07-10
PRIOR PPLICATION NUMBER: US 60/305,182
PRIOR FILING DATE: 2001-07-13
NUMBER OF SEQ ID NOS: 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LENGTH: 810
TYPE: PRT
ORGANISM: Homo sapiens
PUBLICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SOFTWARE: PatentIn version 3.1
                                                                                                                                                                                                                                                                                     LENGTH: 569
TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DATABASE ACCESSION NUMBER: GenBank / P00747
DATABASE ENTRY DATE: 1986-07-21
RELEVANT RESIDUES: (1)..(810)
                                                                                                                                                                                  Local
                                                                               478 EEDCMFGNGKGYRGKRATTVTGTPCQDWAAQEPHRHSIFTPETNPRAGLEKNYCRNPDGD 537
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538 VGGPWCYTTNPRKLYDYCDVPQCCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      538 VGGPWCYTTNPRKLYDYCDVPQCAA 562
                              61 INGPWCYTMNPRKLFDYCDIPLCASS 86
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                                                                                                             1 EQDCMFGNGKGYRGKKATTVTGTPCQEWAAQEPHRHSTFIPGTNKWAGLEKNYCRNPDGD 60
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                                                                                                                                                             69; Conservative
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Similarity 82.4%;
                                                                                                                                                                                  Similarity
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                                                                                                                                                                                84.1%;
                                                                                                                                                           Score 427; DB 9; Le
Pred. No. 1.7e-39;
Pred. No. 1.7e-39;
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Pred. No. 1.2e-39;
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US-09-946-893-8
; Sequence 8, Application US/09946893
; Patent No. US20020072494A1
; GENERAL INFORMATION:
; APPLICANT: Cao, Yihai

RESULT 10

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RESULT 12
US-09-946-893-4
; Sequence 4, Application US/09946893
; Patent No. US20020072494A1
; GENERAL INFORMATION:
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APPLICANT: Cao, Yihai
TITLE OF INVENTION: Materials and methods relating to endothelial cell growth
TITLE OF INVENTION: inhibitors
FILE REFERENCE: Mewburn
CURRENT APPLICATION UNMBER: US/09/946,893
CURRENT FILING DATE: 2001-09-05
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 6, Application US/09946893
Patent No. US20020072494A1
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LENGTH: 576
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Best Local Similarity
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LENGTH: 571
                                                                                                                                                                                                                                                                                                                                              Query Match
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CURRENT FILING DATE: 2001-09-05
PRIOR APPLICATION NUMBER: US 60/230,893
PRIOR FILING DATE: 2000-09-05
NUMBER OF SEQ ID NOS: 11
SOFTWARE: Patentin Ver. 2.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CURRENT FILING DATE: 2001-09-05
PRIOR APPLICATION NUMBER: US 60/230,893
PRIOR FILING DATE: 2000-09-05
NUMBER OF SEQ ID NOS: 11
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SOFTWARE: PatentIn Ver. 2.1
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                                                                                                                                                                                                                                                                                                                                                                                                        OTHER INFORMATION: Description of Artificial Sequence: Angioquiescin OTHER INFORMATION: with a tumor targeting signal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           OTHER INFORMATION: Description of Artificial Sequence: Angioquiescin OTHER INFORMATION: with a tumor targeting signal peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                  FEATURE:
                                                                                                                                                                                                                                                                                                                             Local
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Pred. No. 1.7e-39;
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RESULT 13
US-09-753-064-6
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Matches
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Patent No. US20010016644A1
GENERAL INFORMATION:
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SEQ ID NO 4
LENGTH: 458
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Best Local Similarity
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CURRENT FILLNG DATE: 2001-09-05
PRIOR APPLICATION NUMBER: US 60/230,893
PRIOR FILING DATE: 2000-09-05
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: Cao, Yihai
TITLE OF INVENTION: Materials and methods relating to endothelial cell growth
TITLE OF INVENTION: inhibitors
FILE REFERENCE: Mewburn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NUMBER OF SEQ ID NOS: 11
                                                                                                                                        TELEFAX: 404-818-3799 INFORMATION FOR SEQ ID NO: 6:
                                                                                                                                                                                                                                         PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/763,528
FILING DATE: 12-DEC-1996
ATTORNEY/AGENT INFORMATION:
NAME: Warren, William L.
REGISTRATION NUMBER: 36,714
                                                                                                                                                                                                                                                                                                                                                                  COMPUTER: IBM PC Compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PATENTIN Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/753,064
FILING DATE: 29-Dec-2000
CLASSIFICATION: <Unknown>
                                                                        SEQUENCE CHARACTERISTICS:
LENGTH: 80 amino acids
TYPE: amino acid
                                                                                                                                                                             REFERENCE/DOCKET NUMBER: 05940-0251
TELECOMMUNICATION INFORMATION:
TELEPHONE: 404-818-3700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: Cao, Yihai
Folkman, M. Judah
TITLE OF INVENTION: Endothelial Cell Proliferation Inhibitor
MOLECULE TYPE: P
HYPOTHETICAL: NO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CORRESPONDENCE ADDRESS:
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                                    STRANDEDNESS: single TOPOLOGY: linear
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ZIP: 30303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STATE: Georgia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ADDRESSEE: Jones & Askew,
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83.1%;
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Pred. No. 2.3e-39;
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CURRENT APPLICATION NUMBER: US/10/267,137
CURRENT FILING DATE: 2002-10-07
PRIOR APPLICATION NUMBER: 60/328,329
PRIOR FILING DATE: 2001-10-09
NUMBER OF SEQ ID NOS: 13
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 8
LENGTH: 80
TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
FEATURE:
                                                                                                                                                RESULT 15
US-09-788-142-1
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US-10-267-137-8
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                                                                     Sequence 1, Application US/09788142
Patent No. US20010029246A1
GENERAL INFORMATION:
APPLICANT: Folkman, M. Judah
                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local Similarity
Matches 67; Conserv
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APPLICANT: Xin, Li
APPLICANT: Li, Zai
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TITLE OF INVENTION: KRINGLE DOMAIN 1 OF HUMAN HEPATOCYTE
TITLE OF INVENTION: GROWTH FACTOR AND USES THEREFOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FILE REFERENCE: 524282000100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                              OTHER INFORMATION: Sequence alignment of kringle domains OTHER INFORMATION: plasminogen and HGF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Local Similarity
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OTHER INFORMATION: /note= "Kringle 5 - Figure 3"
SEQUENCE DESCRIPTION: SEQ ID NO: 6:
O'Reilly, Michael
TITLE OF INVENTION: Angiostatin Fragments and Method of Use
NUMBER OF SEQUENCES: 6
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ANTI-SENSE: NO FRAGMENT TYPE:
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                                                                                                                                                                                                                                                          PWCYTMNPRKLFDYCDIPLC 83
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Gan, Ren-bao
Zhou, Qing-wei
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83.8%; Pred. No. 9.8e-39;
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Search completed: January 12, 2004, 17:29:39 Job time : 25.218 secs
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Best Local S
Matches 68
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SEQUENCE CHARACTERISTICS:
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OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTMARB: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/788,142
FILING DATE: 16-PEb-2001
CLASSIFICATION: cUnknown>
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICATION NUMBER: US 08/866,735 FILING DATE: <Unknown> ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                              ANTI-SENSE: NO FRAGMENT TYPE: N-terminal ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TOPOLOGY: linear MOLECULE TYPE: protein HYPOTHETICAL: NO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TELECOMMUNICATION INFORMATION:
TELEPHONE: (404) 818-3700
TELEFAX: (404) 818-3799
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                          CLONE: Plasminogen
SEQUENCE DESCRIPTION: SEQ ID NO: 1:
                                                                                                                                                                                                                                                                                                                                                                                                                     ORGANISM: Murine IMMEDIATE SOURCE:
                                                                                          538 VNGPWCYTTNPRKLYDYCDIPLCASA 563
                                                                                                                                                                             478 ETDCMYGNGKDYRGKTAVTAAGTPCQGWAAQEPHRHSIFTPQTNPRADLEKNYCRNPDGD 537
                                                                                                                  61 INGPWCYTMNPRKLFDYCDIPLCASS 86
                                                                                                                                                                                                        1 EQDCMFGNGKGYRGKKATTVTGTPCQEWAAQEPHRHSTFIPGTNKWAGLEKNYCRNPDGD 60
                                                                                                                                                                                                                                                                   68;
                                                                                                                                                                                                                                                                                       Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NAME: Warren, William L.
REGISTRATION NUMBER: 36,714
REFERENCE/DOCKET NUMBER: 05940-0129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CITY: Atlanta
STATE: Georgia
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STRANDEDNESS: <Unknown>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LENGTH: 812 amino acids
                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                     79.9%;
79.1%;
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Pred. No. 5.7e-37;
4; Mismatches 14; Indels
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Result
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Maximum Match 100%
Listing first 45 summaries
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Maximum DB
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Scoring table:
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       Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
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Match
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     328717 seqs,
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508
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296.176 Million cell updates/sec
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1: /cgn2_6/ptodata/1/iaa/5A_COMB.pep:*
2: /cgn2_6/ptodata/1/iaa/5B_COMB.pep:*
3: /cgn2_6/ptodata/1/iaa/6B_COMB.pep:*
4: /cgn2_6/ptodata/1/iaa/6B_COMB.pep:*
5: /cgn2_6/ptodata/1/iaa/PCTUS_COMB.pep:*
6: /cgn2_6/ptodata/1/iaa/backfiles1.pep:*
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     GenCore version 5.1.6 (c) 1993 - 2004 Compugen Ltd.
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US-09-234-553-1
US-08-991-761A-11
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US-09-132-154-4
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US-09-132-154-7
US-09-132-154-3
US-09-132-154-3
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US-09-131-995-6
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US-09-132-154-6
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US-09-132-154-5
US-08-469-486-54
US-08-469-486-54
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APPLICANT: Ziemann, R.
APPLICANT: Ziemann, R.
TITLE OF INVENTION: SPECIFIC ANTIBODIES TO KRINGLE 5 OF
TITLE OF INVENTION: APO(A) AND METHODS OF USE THEREFOR
FILE REFERENCE: 6296.US.01
CURRENT APPLICATION NUMBER: US/09/234,553
CURRENT FILING DATE: 1999-01-20
NUMBER OF SEQ ID NOS: 1
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 1
LENGTH: 91
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US-08-991-761A-11
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US-09-234-553-1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Matches
                       CITY: Denver
STATE: CO
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US-09-131-995-9	US-08-643-219-9	US-08-851-350-1	US-08-643-219-1	US-08-991-761A-8	US-08-643-219-5	US-08-643-219-2	US-08-643-219-6	US-08-643-219-3	US-08-643-219-7	US-08-643-219-4	US-08-851-350-36	US-08-750-711-1	5200340-8	US-09-192-012-5	US-09-086-514-1	US-08-147-000B-29	US-07-854-603-2
Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Patent No.	Sequence	Seguence	Sequence	Sequence
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ALIGNMENTS

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; Sequence 11, Application ; Patent No. 6576609
                                                                                                                                                                                                                                                                                                                                                                                                                                  GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: Soff, Gerald
APPLICANT: Gately, Stephen
APPLICANT: "wardowski, Przemyslaw
APPLICANT: "War
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
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ORGANISM: Homo sapiens
                                                                                                                                                                  CORRESPONDENCE ADDRESS:
ADDRESSEE: Sheridan Ross P.C.
STREET: 1700 Lincoln St., Sui
                                                                                                                                                                                                                                                                                                                                                 TITLE OF INVENTION: "Methods and TITLE OF INVENTION: Angiostatin" NUMBER OF SEQUENCES: 16
COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EQDCMFGNGKGYRGKKATTVTGTPCQEWAAQEPHRHSTFIPGTNKWAGLEKNYCRNPDGD 60
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Pred. No. 1.3e-50;
; Mismatches 0;
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COMPUTER READABLE FORM: MEDIUM TYPE: Floppy

Floppy disk

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Patent No. 5972896
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                                                CLASSIFICATION:
PRIOR APPLICATION DATA:
PRIOR APPLICATION UNMBER: US/08/832,087
EILING DATE: 03-APR-1997
APPLICATION NUMBER: 08/643,219
EILING DATE: 06-MAY-1996
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TELEPHONE: (303) 863-970
TELEFAX: (303) 863-0223
INFORMATION FOR SEQ ID NO: 1
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ATTORNEY/AGENT INFORMATION:
NAME: Crook, Wannell M.
REGISTRATION NUMBER: 31,071
REFERENCE/DOCKET NUMBER: 35
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TOPOLOGY: linear MOLECULE TYPE: protein
                                                                                                                                                                                                                SOFTWARE: FastSEQ Version 2.0 CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                     COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SOFTWARE: PatentIn Release #1.0, Version #1.30 CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                NUMBER OF SEQUENCES: 14
CORRESPONDENCE ADDRESS:
ADDRESSEE: Abbott Laboratories
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TITLE OF INVENTION: NOVEL ANTIANGIOGENIC PEPTIDES TITLE OF INVENTION: AND METHODS FOR INHIBITING AN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT:
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OPERATING SYSTEM: PC-DOS/MS-DOS
NAME: Casuto, Dianne
REGISTRATION NUMBER: 40,943
REFERENCE/DOCKET NUMBER: 5940.US.P1
                                                                                                                                                                             FILING DATE:
                                                                                                                                                                                                                                                    COMPUTER: IBM COLOPERATING SYSTEM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TYPE: amino acid
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                                                                                                                                                                                               APPLICATION NUMBER: US/09/131,995
                                                                                                                                                                                                                                                                                                                                        COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                 CITY:
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       Dianne 40,943
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83.7%;
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Best Local Similarity
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SEQUENCE CHARACTERISTICS:
LENGTH: 90 amino acids
                                                                                                                                                                          FILING DATE: 03-APR-1997
CLASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/643,21
FILING DATE: 06-MAY-1996
ATTORNEY/AGENT INFORMATION:
NAME: CASULO, Dianne
REGISTRATION NUMBER: 40,943
REFERENCE/DOCKET NUMBER: 5940
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
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                                                                                   SEQUENCE CHARACTERISTICS:
LENGTH: 90 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                       COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
COMPUTER: IBM Compatible
OPERATING SYSTEM: DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TITLE OF INVENTION: NO
TITLE OF INVENTION: AN
NUMBER OF SEQUENCES: 1
CORRESPONDENCE ADDRESS:
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 FRAGMENT TYPE:
                                                                                                                                                                                                                                                                                                                                                                                             SOFTWARE: FastSEQ Version 2.0 CURRENT APPLICATION DATA:
                                     MOLECULE TYPE:
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                                                                                                                                                                                                                                                                                                                                                                             APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CITY: Abbott Park
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DESCRIPTION:
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TELEFAX: 847-938-2623
                                                     TOPOLOGY:
                                                                      TYPE: amino acid
                                                                                                                                                           TELEFAX:
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100 Abbott Park Road
                                                                                     90 amino acids
                                                                                                                                                             847-938-2623
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internal
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    Donald J.
NOVEL ANTIANGIOGENIC PEPTIDES
AND METHODS FOR INHIBITING ANGIOGENESIS

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Pred. No. 9.6e-42;
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US-09-132-154-4
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Best Local (
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                                                                                                                                                                                                                                                                                                                                  REGISTRATION NUMBER: 40,943
REGISTRATION NUMBER: 5940
REFERENCE/DOCKET NUMBER: 5940
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION 847-938-3137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GENERAL INFORMATION:
APPLICANT: Davids
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                                                                                                                                                                                 DESCRIPTION: FRAGMENT TYPE:
                                                                                                                                                                                                                  MOLECULE TYPE:
                                                                                                                                                                                                                                                                SEQUENCE CHARACTERISTICS:
LENGTH: 90 amino acids
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TITLE OF INVENTION: NOVEL ANTIANGIOGENIC PEPTIDES
TITLE OF INVENTION: AND METHODS FOR INHIBITING ANGIOGENESIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CLASSIFICATION:
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMPUTER READABLE FORM:
MEDIUM TYPE: Diskett
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CORRESPONDENCE ADDRESS:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMPUTER: IBM Compatible OPERATING SYSTEM: DOS SOFTWARE: FastSEQ Version 2.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICATION NUMBER: US/0: FILING DATE: 03-APR-1997 APPLICATION NUMBER: 08/6: FILING DATE: 06-MAY-1996
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                                                                                                                                                                                                                                   TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICATION NUMBER: FILING DATE:
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CITY: Abbott Park
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61 INGPWCYTMNPRKLFDYCDIPLCAS 85
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                                                                                                                  Similarity
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                                   EEDCMFGNGKGYRGKRATTVTGTPCQDWAAQEPHRHS I FTPETNPRAGLEKNYCRNPDGD
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100 Abbott Park Road
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                                                                                                   Conservative
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                                                                                               Score 430; DB 3;
Pred. No. 9.6e-42;
7; Mismatches 8
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Pred. No. 9.6e-42;
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RESULT 7
US-08-832-087B-7
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US-09-131-995-7
                                                                                       Sequence 7, Application US/08832087B
Patent No. 5981484
GENERAL INFORMATION:
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Patent No. 5972896
                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                  Matches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NAME: Casuto, Dianne
REGISTRATION NUMBER: 40,943
REFERENCE/DOCKET NUMBER: 59
TELECOMMUNICATION INFORMATION:
TELEPHONE: 847-938-3137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICATION NUMBER: 08/643,219
FILING DATE: 06-MAY-1996
ATTORNEY/AGENT INFORMATION:
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MEDIUM TYPE: Diskett
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ADDRESSEE: Abbott Laboratories
STREET: 100 Abbott Park Road
              NUMBER OF SEQUENCES: 1
                                            APPLICANT: Davidson, TITLE OF INVENTION: 1 TITLE OF INVENTION: 1
                                                                                                                                                                                                                                                                                                                                                                                                                                               MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TITLE OF INVENTION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICATION NUMBER: US/0
FILING DATE: 03-APR-1997
APPLICATION NUMBER: 08/6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FILING DATE:
CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                             DESCRIPTION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TELEFAX: 847-938-2623
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SYSTEM: DOS
Abbott Laboratories
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internal
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, Dianne
, 40,943
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                        , Donald J.
NOVEL ANTIANGIOGENIC PEPTIDES
NON METHODS FOR INHIBITING ANGIOGENESIS
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NOVEL ANTIANGIOGENIC PEPTIDES
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Pred. No. 9.9e-42;
7; Mismatches 8
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COUNTRY:

60064

USA

STREET:

: 100 Abbott Park Road Abbott Park

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Best Local
                                                                                                                                                                                                                                                                                   GENERAL INFORMATION:
APPLICANT: Davidson, Donald J.
TITLE OF INVENTION: NOVEL ANTIANGIOGENIC PEPTIDES
TITLE OF INVENTION: AND METHODS FOR INHIBITING AND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   INFORMATION FOR SEQ ID NO:
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PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/643,219
FILING DATE: 06-MAY-1996
ATTORNEY/AGENT INFORMATION:
NAME: CASULO, Dianne
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SOFTWARE: FASTSEQ VERSION 2.0 CURRENT APPLICATION DATA: APPLICATION NUMBER: US/08/832.
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                                                                                                                                                                                                            NUMBER OF SEQUENCES: 14
CORRESPONDENCE ADDRESS:
ADDRESSEE: Abbott Laboratories
STREET: 100 Abbott Park Road
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REFERENCE/DOCKET NUMBER: 59
TELECOMMUNICATION INFORMATION:
TELEPHONE: 847-938-3137
                                             SOFTWARE: FastSEQ Version 2.0 CURRENT APPLICATION DATA:
                                                                                                             COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
                                                                                                                                                                                  STREET: 100 -- CITY: Abbott Park
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OPERATING SYSTEM:
                                                          COMPUTER: IBM Compatible OPERATING SYSTEM: DOS SOFTWARE: FastSEQ Version
                                                                                                                                                  ZIP:
              APPLICATION NUMBER: FILING DATE:
                                                                                                                                                              COUNTRY:
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CLASSIFICATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                         70;
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amino acid
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internal
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; DESCRIPTION:
; FRAGMENT TYPE:
US-09-132-154-7
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Patent No. 5972896
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Best Local Similarity
                                                              PRIOR APPLICATION DATA:
APPLICATION NUMBER: US/08/832,08
FILING DATE: 03-APR-1997
APPLICATION NUMBER: 08/643,219
FILING DATE: 06-MAY-1996
ATTORNEY/AGENT INFORMATION:
NAME: Casuto, Dianne
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GENERAL INFORMATION:
APPLICANT: Davids
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ATTORNEY AGENT INFORMATION:
NAME: Casuto, Dianne
REGISTRATION NUMBER: 40,943
REFERENCE/DOCKET NUMBER: 5940
TELECOMMUNICATION INFORMATION:
TELEPHONE: 847-938-3137
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APPLICATION NUMBER: US/0
FILING DATE: 03-APR-1997
APPLICATION NUMBER: 08/6
NAME: Casuto, Dianne
REGISTRATION NUMBER: 40,943
REFERENCE/DOCKET NUMBER: 59-
TELECOMMUNICATION INFORMATION:
TELEPHONE: 847-938-3137
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OPERATING SYSTEM: DOS
SOFTWARE: Fast-SEQ Version 2.0
CURRENT APPLICATION DATA:
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                                                                                                                                                                                                                                                                                             COMPUTER READABLE FORM: MEDIUM TYPE: Diskett
                                                                                                                                                                                                                                                                                                                                                                                                                          NUMBER OF SEQUENCES: 1
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                           TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                               STREET: 100 Park
                                                                                                                                                                                 CLASSIFICATION:
                                                                                                                                                                                                              APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                           COUNTRY:
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internal
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Pred. No. 9.9e-42;
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Query Match
Best Local Similarity
""" hes 70; Conservi
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US-08-832-087B-3
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Best Local (
                                                                                                                                                   TELEX:
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
SEQUENCE: 95 amino acids
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INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 95 amino acids
                                                                                                                                                                                                                                                                                                                                      APPLICATION NUMBER: US
FILING DATE: 03-APR-15
CLASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 01
                                                                                      MOLECULE TYPE:
DESCRIPTION:
FRAGMENT TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                              COMPUTER: IBM Compatible
OPERATING SYSTEM: DOS
SOFTWARE: FastSEQ Version 2.0
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMPUTER READABLE FORM:
MEDIUM TYPE: Diskett
                                                                                                                                                                                                                                   NAME: Casuto, Dianne
REGISTRATION NUMBER: 40,943
REFERENCE/DOCKET NUMBER: 59
TELECOMMUNICATION INFORMATION:
TELEPHONE: 847-938-3137
                                                                                                                                                                                                                                                                                                          FILING DATE: 06-MAY-1996
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NUMBER OF SEQUENCES: 14
CORRESPONDENCE ADDRESS:
ADDRESSEE: Abbott Laboratories
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FRAGMENT TYPE:
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DESCRIPTION:
                                                                                                                                  TOPOLOGY:
                                                                                                                                                                                                                       TELEFAX:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STREET: 100 Abbott Park Road
CITY: Abbott Park
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               Conservative
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AND METHODS FOR INHIBITING ANGIOGENESIS
                             84.6%;
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             Score 430; DB 2
Pred. No. 1e-41;
7; Mismatches
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Pred. No. 1e-41;
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                                         DB 2; Length 95;
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US-09-132-154-3
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Patent No. 6251867
GENERAL INFORMATION:
APPLICANT: Davids
                                                                                                                     Matches
                                                                                                                                               Query Match
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                                                                                                                                                                                                         MOLECULE TYPE:
DESCRIPTION:
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APPLICATION NUMBER: 08/643,219
FILING DATE: 06-MAY-1996
ATTORNEY/AGENT INFORMATION:
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                                                                                                                                                                                              FRAGMENT TYPE:
                                                                                                                                                                                                                                                                                   SEQUENCE CHARACTERISTICS:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICATION NUMBER:
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TITLE OF INVENTION:
NUMBER OF SEQUENCES:
                                                                                                                                  Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FILING DATE:
                                                                                                                                                                                                                                                                                                                                TELEFAX: 847-938-2623
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                    61 INGPWCYTMNPRKLFDYCDIPLCAS 85
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VGGPWCYTTNPRKLYDYCDVPQCAA 95
                                                       ESDCMFGNGKGYRGKRATIVIGIPCQDWAAQEPHRHSIFTPSTNPRAGLEKNYCRNPDGD
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100 Abbott Park Road
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NOVEL ANTIANGIOGENIC PEPTIDES
AND METHODS FOR INHIBITING AND
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                                                                                                                  7; Mismatches
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                                                                                                                                Score 430; DB 3
Pred. No. 1e-41;
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RESULT 12 US-09-131-995-6

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US-09-131-995-6
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Patent No. 5972896
GENERAL INFORMATION:
                                                                             Sequence 6, Application US/08832087B
Patent No. 5981484
GENERAL INFORMATION:
APPLICANT: Davidson, Donald J.
TITLE OF INVENTION: AND METHODS F
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SEQUENCE CHARACTERISTICS:
LENGTH: 98 amino acids
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TELECOMMUNICATION INFORMATION:
TELEPHONE: 847-938-3137
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PRIOR APPLICATION NUMBER:
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CORRESPONDENCE ADDRESS:
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APPLICATION NUMBER: 08/643,219
FILING DATE: 06-MAY-1996
ATTORNEY/AGENT INFORMATION:
                                              CORRESPONDENCE ADDRESS
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                                                                 NUMBER OF SEQUENCES:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NAME: Casuto, Dianne REGISTRATION NUMBER:
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             STREET:
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                              ADDRESSEE:
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                 E: Abbott Laboratories
100 Abbott Park Road
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internal

    Donald J.
    NOVEL ANTIANGIOGENIC PEPTIDES
    AND METHODS FOR INHIBITING ANGIOGENESIS

                                                                                NOVEL ANTIANGIOGENIC PEPTIDES AND METHODS FOR INHIBITING ANGIOGENESIS
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Pred. No. 1.1e-41;
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                                                                                                                                                                                                                                                                                                                                                                        Sequence 6, Application Patent No. 6251867
GENERAL INFORMATION:
APPLICANT: Davids
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Best Local (
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SOPTWARE: FASTSEQ Version 2.0
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/832,01
FILING DATE: 03-APR-1997
CLASSIFICATION: 514
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REGISTRATION NUMBER: 40,943
REFERENCE/DOCKET NUMBER: 5940
TELECOMMUNICATION INFORMATION:
TELEPHONE: 847-938-3137
TELEPAX: 847-938-2623
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DESCRIPTION:
FRAGMENT TYPE:
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APPLICATION NUMBER: 08/6.
FILING DATE: 06-MAY-1996
ATTORNEY/AGENT INFORMATION:
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MEDIUM TYPE: Diskett
COMPUTER: IBM Compat
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PRIOR APPLICATION DATA:
APPLICATION NUMBER: US/0
FILING DATE: 03-APR-1997
                                                                                                  COMPUTER: IBM Compatible
OPERATING SYSTEM: DOS
SOFTWARE: FastESE Version 2.0
CURRENT APPLICATION DATA:
                                                                                                                                                                  COMPUTER READABLE FORM:
MEDIUM TYPE: Diskett
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ZIP: 60064
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                                                 CLASSIFICATION:
                                                                    FILING DATE
                                                                                                                                                                                                                                                        CITY: Abbott Park
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                                                                                     APPLICATION NUMBER:
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SYSTEM: DOS
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NOVEL ANTIANGIOGENIC PEPTIDES
AND METHODS FOR INHIBITING ANGIOGENESIS
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                     US/08/832,087
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Pred. No. 1.1e-41;
7; Mismatches 8
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Gaps

FILING DATE: 06-MAY-1996 ATTORNEY/AGENT INFORMATION:

APPLICATION NUMBER: 08/643,219 FILING DATE: 06-MAY-1996

NAME: Casuto, Dianne REGISTRATION NUMBER:

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RESULT 15
US-09-131-995-2
; Sequence 2, Ap
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Best Local Similarity
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Patent No. 5972896
                                             OPERATION SYSTEM: DOS
SOFTWARE: FRACESEQ Version 2.0
CURRENT APPLICATION DATA:
APPLICATION UNMBER: US/09/131,995
FILING DATE:
CLASSIFICATION DATA:
APPLICATION UNMBER: US/08/832,087
FILING DATE: 03-APR-1997
APPLICATION NUMBER: 08/643,219
FILING DATE: 06-MAY-1996
ATTORNEY/AGENT INFORMATION:
NAME: CASULO, Dianne
REGISTRATION NUMBER: 40,943
REFERENCE/DOCKET NUMBER: 5940.US.P1
TELECOMMUNICATION INFORMATION:
TELEPHONE: 847-938-137
TELEPAX: 847-938-2623
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APPLICANT: Davids
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INFORMATION FOR SEQ ID NO: SEQUENCE CHARACTERISTICS:
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DESCRIPTION:
FRAGMENT TYPE:
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TELECOMMUNICATION INFORMATION:
TELEPHONE: 847-938-3137
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MEDIUM TYPE: Diskette
COMPUTER: IBM Compatik
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: Davidson, Donald J.
TITLE OF INVENTION: NOVEL ANTIANGIOGENIC PEPTIDES
TITLE OF INVENTION: AND METHODS FOR INHIBITING ANGIOGENESIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE CHARACTERISTICS: LENGTH: 98 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NUMBER OF SEQUENCES: 1
CORRESPONDENCE ADDRESS:
ADDRESSEE: Abbott La
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CITY: Abbott Park
STATE: IL
                                                                                                                                                                                                                                                                                                                                                                                                                                        ZIP: 60064
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STREET:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             11 EEDCMFGNGKGYRGKRATTVTGTPCQDWAAQEPHRHSIFTPETNPRAGLEKNYCRNPDGD 70
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   amino acid
GY: linear
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100 Abbott Park Road
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nilarity 82.4%;
Conservative
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                                                                                                                                                                                                                                                                                                                                                                               IBM Compatible
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                 <u>ب</u>
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Search completed: January 12, 2004, 17:27:16 Job time : 13.2857 secs
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Best Local Similarity 82.6
Matches 70; Conservative
                                                                                                                                                                                                                                                        TOPOLOGY: lin
MOLECULE TYPE:
DESCRIPTION:
FRAGMENT TYPE:
                                                           17 EEDCMFGNGKGYRGKRATTVTGTPCQDWAAQEPHRHSIFTPETNPRAGLEKNYCRNPDGD 76
                                                                                                                                                    1 EQDCMFGNGKGYRGKKATTVTGTPCQEWAAQEPHRHSTFIPGTNKWAGLEKNYCRNPDGD 60
                                                                                                                                                                                                                                                                                                                   amino acids
                                                                                                                                                                                                                                                                                                       linear
                                                                                                                                                                                                                                                         protein
internal
                                                                                                                                                                                                84.6%;
                                                                                                                                                                                Score 430; DB 2; Length 101; Pred. No. 1.1e-41; 7; Mismatches B; Indels
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